Permittee:
Department of the Air Force
Cape Canaveral Air Force Station
45th CES/CEV
1224 Jupiter Street
Patrick Air Force Base, FL 32925

ATTENTION:
Lt Col Christopher M Hazen
Range/Base Civil Engineer

I. D. Number: FL2 800 016 121
Permit Number: 70725/HO-CA/001
Date of Issue: DRAFT
Expiration Date: March 3, 2005
County: Brevard
Latitude/Longitude: 28°30'30" / 80°34'00"
Project: Operation of a Hazardous Waste Storage Facility/Thermal Treatment Unit and Implementation of Corrective Action Requirements.

Pursuant to the Solid Waste Disposal Act and 40 CFR 264.101 (as adopted in Rule 62-730.180, of the Florida Administrative Code [F.A.C.]), this permit is issued under the provisions of Section 403.722, Florida Statutes (F.S.) and F.A.C. Chapters 62-4, 62-160, 62-522, 62-532, 62-550, and 62-730. The above-named Permittee is hereby authorized to perform the work or operate the facility shown on the application, and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

A. The operation of hazardous waste storage buildings that will be known as Facility 44205 and Facility 44200, and will be located at Cape Canaveral Air Force Station (CCAFS), Brevard County, Florida. Hazardous wastes are stored in DOT approved containers, for short-term storage prior to manifesting off-site for proper treatment and/or disposal or waste recovery. The hazardous wastes permitted for storage are generated from Department of Defense operations.

   The waste allowed for storage in Facility 44205 is listed in Attachment 1 and will consist of ignitable waste, toxic waste, halogenated solvent waste, waste lithium batteries (reactive), and spent low pressure sodium lamps. The maximum number of 55-gallon drums allowed to be stored in Facility 44205 will not exceed 200 drums (11,000 gallons). The storage facility has a secondary containment capacity of 5,298 gallons.

   The wastes that are permitted for storage in Facility 44200 are listed in Attachment 2, and will consist of waste acids and bases. The maximum number of 55-gallon drums of hazardous waste allowed to be stored in Facility 44200 will not exceed 64 drums (3,520 gallons). Facility 44200 will also be used to store PCB waste, which is segregated from the permitted hazardous waste storage area. If a spill or leak is found during the required weekly inspection or at any other time, the material captured within the contained area will be cleaned up immediately. The waste will be properly containerized and the sump and containment area will be decontaminated as addressed in the permit application. Safety equipment provided in the storage facilities will include, but is not limited to, a fire suppression and alarm system, fire extinguishers, personnel protective equipment, spill control and decontamination equipment.

B. To open burn and open detonate waste explosives at the Explosive Ordnance Disposal (EOD) Range Site C027.

Low explosives are treated by burning in a thermal treatment facility or the Open Burn (OB) unit. High explosives are detonated at the high explosive detonation area, or the Open Detonation (OD) area. The OD area is used for fragment producing explosives and consists of a sandy area about 500 feet closer to the beach and east of the open burn unit. The maximum range explosive limit is 60 pounds of Class 1.1 non-fragment producing material, or 60 pounds Class 1.1 fragment producing material.

The Open Burn (OB) unit consists of two steel burn boxes. One burn-box is 5' x 5' x 3' resting on four-inch I beams and the other burn-box is 6' X 12' X 2'6" resting on four-inch I beams. Both units were fabricated using welded ½ inch ASTM A 36 hot rolled steel plate. The burn-boxes rest on a 2 1/2-inch thick firebrick pad that measures 71/2' X 71/2' that rests on six-inch reinforced 3000 psi concrete slab measuring 20' X 20'. A 100' X 100' asphalt pad, designed with a one-percent (1%) slope, drains water away from the firebrick/concrete pad area. When not in use, removable aluminum covers prevent the infiltration of water into the burn-box. For treatment by burning, a combustible layer of wood is laid in the bottom of the box to be used. Waste explosives are then added to the pile and additional wood is placed on top. A maximum of five gallons of diesel fuel is added to the material. A six-foot fuse is used to initiate the burn. Twelve hours are required to allow the burn pile to cool to ambient temperature before inspection of the unit is permitted.

The ash and residuals that are generated from each separate thermal treatment event are placed in individual containers. The containers are 20mm ammunition cans. Each container is sampled and analyzed for the eight RCRA metals. If hazardous, the material is placed in a satellite accumulation drum and disposed of by an off-site contractor through the Joint Base Operations and Service Contractor (JBOSC). The non-hazardous material is disposed of through Defense Reutilization and Marketing Office (DRMO), or taken to a permitted solid waste disposal facility.

Detonation takes place in the Open Detonation (OD) area either on the surface or in a pit or trench, depending upon the size of the item, amount and type of explosive, charge necessary to ensure destruction, and the method of priming. Electric ignition is utilized for positive control. Dual priming (blasting caps) is used for redundancy. Soon after the OD unit can be safely approached following completion of a detonation (generally within one hour of the detonation), the OD unit is inspected for any items that remain after detonation. Negligible quantities of ash are generated from the OD operations. Items still containing energetic material are detonated immediately. After detonation and verification of complete treatment, the area is policed in all directions a minimum of 200 feet and any obvious fragments are placed into approved containers for DRMO disposal.

Operation of the facility will be in accordance with the revised permit application dated March 19, 1996, and the revised Quality Assurance/Project Assurance Plan dated November 30, 1998 and approved on May 10, 1999.

C. Sitewide Corrective Action (CA) for the Solid Waste Management Units (SWMUs) and Area of concern (AOCs). The Permittee shall, pursuant to this permit, be required to investigate any releases of hazardous waste or hazardous constituents at the facility, regardless of the time at which waste was placed in a unit, and to take appropriate corrective action which is protective of human and the environment for any such releases. Corrective Action (CA) is required for SWMUs and AOCs as identified in Appendix A and Attachment 7.

This permit is based on the premise that information and reports submitted by the Permittee prior to issuance of this permit are accurate. Inaccuracies found in this information or information submitted as required by this permit may be grounds for termination or modification of this permit in accordance with Rule 62-730.290, F.A.C and potential enforcement action. The Permittee must inform the Department of any deviation from or changes in the information in the application, which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

Pursuant to 40 CFR 264.10, the requirements of this RCRA permit extend to all contiguous and other property under the control of the Permittee (see Attachment 3, a map which demarks the property boundaries of land under the Permittee's control). Compliance with this RCRA permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA except for those requirements not included in the permit which become effective by statute, are promulgated under 40 CFR Part 268 restricting placement of hazardous waste in or on the land or are promulgated under 40 CFR Part 264 regarding leak detection systems for new and replacement surface impoundments, waste piles, and landfill units, and lateral expansions of surface impoundments, waste piles, and landfill units, as specified in 40 CFR 270.4. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Section 3008(a), 3008(h), 3004(v), 3008(c), 3007, 3013 or Section 7003 of RCRA, Sections 104, 106(a), 106(e), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 *et seq*., commonly known as CERCLA), or any other law providing for protection of public health or the environment.

The facility is located at Cape Canaveral Air Force Station, Florida.

The following documents were used in the preparation of this permit:

1. Additional information provided for the renewal application received April 10, 2002

2. 45th Space Wing Installation Restoration Program, Statement of Basis and LUCIPS dated November 15, 2001.

3. Operation Permit Renewal Application, Certification, and Permit Fee received on August 30, 2002.,

4. Operation Permit Renewal Application, Certification, and Permit Fee received on September 7, 2001.

5. Additional information provided in response to the First NOD for the renewal application received July 12, 1999.

6. First Notice of Deficiency (NOD) dated May 20, 1999.

7. Operation Permit Renewal Application, Certification, and Permit Fee received on May 4, 1999.

8. Operating Permit HO01-255040 issued on May 11, 1995.

9. Additional information provided in response to the First NOD for the Operation Permit Application received November 1, 1994.

10. First Notice of Deficiency (NOD) dated September 23, 1994, for the Operation Permit Application.

11. Operation Permit Application received July 27, 1994.

12. First Notice of Deficiency (NOD) dated May 20, 1994, for the Operation Permit Renewal Application.

13. Construction Permit issued June 2, 1993.

14. Additional information provided in response to the First NOD for the Construction Permit Application received February 17, 1993.

15. First Notice of Deficiency (NOD) for the Construction Permit Application dated January 22, 1993.

16. Construction Permit Application received November 25, 1992.

17. Operating Permit HO05-185569 issued on March 13, 1992.

18. Operating Permit HO05-94772 issued on January 9, 1986.

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GENERAL CONDITIONS (PURSUANT TO CHAPTER 62-4, F.A.C.):

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The Permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the Permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The Permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the Permittee to achieve compliance with the conditions of this permit, or are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The Permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

    a. Have access to and copy any records that must be kept under conditions of the permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sample or monitor any substances or parameters at any location reasonable necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the Permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the Permittee shall immediately provide the Department with the following information:

   a. A description of and cause of noncompliance; and

   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the Permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The Permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the Permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300 F.A.C., as applicable. The Permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology (BACT);

    b. Determination of Prevention of Significant Deterioration (PSD);

    c. Certification of compliance with state Water Quality Standards (Section 401, PL 92-500); and

d. Compliance with New Source Performance Standards.

14. The Permittee shall comply with the following:

a. Upon request, the Permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The Permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

(1) the date, exact place, and time of sampling or measurements;

(2) the person responsible for performing the sampling or measurements;

(3) the dates analyses were performed;

(4) the person responsible for performing the analyses;

(5) the analytical techniques or methods used;

(6) the results of such analyses.

15. When requested by the Department, the Permittee shall within a reasonable time furnish any information required by law - which is needed to determine compliance with the permit. If the Permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

16. In the case of an underground injection control permit, the following permit conditions also shall apply:

a. All reports or information required by the Department shall be certified as being true, accurate and complete.

b. Reports of compliance or noncompliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

c. Notification of any noncompliance which may endanger health or the environment shall be reported verbally to the Department within 24 hours and again within 72 hours, and a final written report provided within two weeks.

(1) The verbal reports shall contain any monitoring or other information which indicate that any contaminant may endanger an underground source of drinking water and any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

(2) The written submission shall contain a description of and a discussion of the cause of the noncompliance and, if it has not been corrected, the anticipated time the noncompliance is expected to continue, the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance and all information required by Rule 62-528.230(4)(b), F.A.C.

d. The Department shall be notified at least 180 days before conversion or abandonment of an injection well, unless abandonment within a lesser period of time is necessary to protect waters of the state.

17. The following conditions also shall apply to a hazardous waste facility permit.

a. The following reports shall be submitted to the Department:

(1) Manifest discrepancy report. If a significant discrepancy in a manifest is discovered, the Permittee shall attempt to rectify the discrepancy. If not resolved within 15 days after the waste is received, the Permittee shall immediately submit a letter report, including a copy of the manifest, to the Department.

(2) Unmanifested waste report. The Permittee shall submit an unmanifested waste report to the Department within 15 days of receipt of unmanifested waste.

(3) Biennial report. A biennial report covering facility activities during the previous calendar year shall be submitted by March 1 of each even numbered year pursuant to Chapter 62-730, F.A.C.

b. Notification of any noncompliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be reported verbally to the Department within 24 hours, and a written report shall be provided within 5 days. The verbal report shall include the name, address, I.D. number, and telephone number of the facility, its owner or operator, the name and quantity of materials involved, the extent of any injuries, an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain:

(1) A description and cause of the noncompliance.

(2) If not corrected, the expected time of correction, and the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

c. Reports of compliance or noncompliance with, or any progress reports on, requirements in any compliance schedule shall be submitted no later than 14 days after each schedule date.

d. All reports or information required by the Department by a hazardous waste Permittee shall be signed by a person authorized to sign a permit application.

e. Unless expressly provided otherwise, references in this permit to specific Chapters or Rules of the Florida Administrative Code (F.A.C.) and specific parts or sections of 40 Code of Federal Regulations (CFR) shall be construed to include the caveat, "as the Chapter, Rule, part or section may be amended or renumbered from time to time."

SPECIFIC CONDITIONS

PART I - STANDARD REQUIREMENTS

1. Submittals in response to these conditions (except Specific Condition 2 of this Part) shall be as follows:

   a. One (1) copy of all documents required by Specific Conditions Part I through PartVI **only** shall be sent to:

      Hazardous Waste Supervisor
      Department of Environmental Protection
      Suite 232
      3319 Maguire Blvd.
      Orlando, Florida 32803-3767

   b. One (1) copy of HSWA and OB/OD shall be sent to:

      Chief, RCRA Programs Branch
      United States Environmental Protection Agency
      Region 4
      Sam Nunn Atlanta Federal Center
      61 Forsyth Street, S.W.
      Atlanta, Georgia 30303-3104

   c. One (1) copy of all documents required by Specific Conditions Part I through Part VI **only** shall be sent to:

      Environmental Administrator

Hazardous Waste Regulation Section
M.S. 4560
Bureau of Solid and Hazardous Waste
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

d. One (1) copy of all documents required by Specific Conditions HSWA Part I through Appendix E **only** shall be sent to:

Environmental Manager
M.S. 4535
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

2. All documents submitted pursuant to the conditions of this permit shall be accompanied by a cover letter stating the name and date of the document submitted, the Specific Condition(s) affected, and the permit number and project name of the permit involved. All documents modifying the approved permit must be submitted to the Department for review and shall be signed, sealed, and certified by a Professional Engineer [in accordance with Chapter 471, F.S. and Rule 62-730.220(7), F.A.C.] and/or a Professional Geologist. It is noted here and intended in the remainder of this Permit, that notifications between Permittee and the Department and approvals by the Department may be made in emails, by formal letters, or other alternate reporting or approval processes, as authorized by the Department.

3. The Department may modify, revoke, reissue or terminate for cause this permit in accordance with Chapter 62-730, F.A.C. The filing of a request for a permit modification, revocation, reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. The Permittee may submit any subsequent revisions to the Department for approval. These revisions shall meet the requirements of Rule 62-730.290, F.A.C., and the fee requirements of Chapter 62-730 and Rule 62-4.050, F.A.C. The Permittee shall submit a copy of the cover letter accompanying the revisions and the fee to:

Florida Department of Environmental Protection
Post Office Box 3070
Tallahassee, Florida 32315-3070

The Permittee shall submit the revisions to the addresses in Specific Condition 1 of this Part.

4. Prior to one hundred-eighty (180) calendar days before the expiration of this permit (Rule 62-730.260(2), F.A.C.), the Permittee shall submit a complete application for the renewal of the permit on forms and in a manner prescribed by the Department unless closure care and all corrective action have been completed and accepted by the Department. If the Permittee allows this permit to expire

prior to Department acceptance of the certification of closure and termination of all corrective action, the Permittee must reapply for a permit in accordance with Rule 62-730.900(2), F.A.C.

The Permittee shall submit one copy of the cover letter accompanying the renewal or other appropriate documentation and the fee to:

Florida Department of Environmental Protection
Post Office Box 3070
Tallahassee, Florida 32315-3070

The Permittee shall submit the renewal to the addresses in Specific Condition 1 of this Part.

5. The Department of Environmental Protection′s 24-hour emergency telephone number is (850) 413-9911 or (800) 320-0519. During normal business hours, the DEP District Office may be contacted at (407) 894-7555.

6. The facility shall comply with those sections of 40 CFR Part 124 specified in Rule 62-730.184, F.A.C., 40 CFR Parts 260 through 268, and 40 CFR Part 270 as adopted in Chapter 62-730, F.A.C.

7. The Permittee shall revise "Part I - General" of the **Application for a Hazardous Waste Facility Permit** [DEP Form 62-730.900(2)(a)] within thirty (30) days of any changes in the Part I information. The revised "Part I - General" must be submitted to the Department within thirty (30) days of such changes.

8. Before transferring ownership or operation of this facility during the operating or closure period, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Part 264 and Chapter 62-730, F.A.C. [40 CFR 264.12(c)]. The Permittee shall comply with Rule 62-730.300, F.A.C.

9. The Permittee shall comply with the security provisions of 40 CFR 264.14 and the site security provisions of the permit application dated March 19, 1996. This facility contains suspected or confirmed contaminated sites where there may be a risk of exposure to the public, and therefore, the Permittee will comply with their warning sign policy. The Permittee shall coordinate with Department representatives via the Partnering Team on sign verbiage, size, placement, site locations, and on other details of sign installation. It is noted here that this policy shall meet the intent of the requirements of Section 403.7255, F.S., and Rule 62-730.181(3), F.A.C.

10. The Permittee shall visually inspect the facility emergency and safety equipment in accordance with 40 CFR 264.15 during permitted activities. The Permittee shall remedy any deterioration or malfunction discovered by an inspection, in accordance with the requirements of 40 CFR 264.15(c). A schedule for the inspection of the facility emergency and safety equipment must be maintained as the operating record of the facility. Changes, additions, or deletions to the schedule must be approved in writing by the Department.

11. Facility personnel must successfully complete the approved training program indicated in the permit application dated March 19, 1996 within six (6) months of employment or assignment to a facility or

to a new position at the facility. Verification of this training must be kept with the personnel training records and maintained on-site. Personnel shall not work unsupervised until training has been completed. The training must be reviewed by facility personnel at least annually. The Permittee shall maintain an updated list of personnel handling hazardous waste and their respective job titles at the site [40 CFR 264.16].

12. The Permittee shall comply with the following conditions concerning preparedness and prevention:

    a. At a minimum, the Permittee shall have the equipment available at the facility which are described in the permit application dated March 19, 1996, as required by 40 CFR 264.32.

    b. The Permittee shall test and maintain the equipment specified in Specific Conditions 10 and 12.a of this Part as necessary to assure its proper operation in time of emergency, as required by 40 CFR 264.33.

    c. The Permittee shall maintain access to the communications or alarm system, as required by 40 CFR 264.34.

    d. The Permittee shall maintain arrangements with State and local authorities as required by 40 CFR 264.37. If State or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee shall document this refusal in the operating record.

    e. At a minimum, the Permittee shall maintain aisle space as required by 40 CFR 264.35.

13. The Permittee shall comply with the following conditions concerning the contingency plan:

    a. The Permittee shall immediately carry out the provisions of Contingency Plan in 45 SW OPLAN 32-3 Vol 1, Hazardous Materials (HAZMAT) Emergency Response Plan dated March 31, 1996 and follow the emergency procedures described by 40 CFR 264.56, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment. The Permittee shall give proper notification if an emergency situation arises and, within fifteen (15) calendar days, must submit to the Department a written report which includes all information required in 40 CFR 264.56(j).

    b. The Permittee shall comply with the requirements of 40 CFR 264.53.

    c. Within seven (7) calendar days of meeting any criterion listed in 40 CFR 264.54(a), (b) and (c), the Permittee shall amend the plan and submit the amended plan for Department approval. Any other changes to the plan must be submitted to the Department within seven (7) days of the change. All amended plans must be distributed to the appropriate agencies.

    d. The Permittee shall comply with the requirements of 40 CFR 264.55, concerning the emergency coordinator.

14. The Permittee shall comply with the manifest requirements of 40 CFR 264.71, 264.72 and 264.76.

15. The Permittee shall keep a written operating record at their respective sites, which includes:

    a. the results of the waste analysis;

    b. a summary report and details of incidents that require implementation of the contingency plan;

    c. manifests;

    d. the results of inspections;

    e. the closure plan;

    f. biennial reports;

    g. monitoring, testing, or analytical data where required by 40 CFR Part 264 Subparts F and G, and 40 CFR 264.228;

    h. inspections of emergency and safety equipment (Specific Condition 10 of this Part);

    i. personnel training records (Specific Condition 11 of this Part);

    j. the Waste Minimization Program Plan (Specific Conditions 17 of this Part).

    k. the description and quantity of each hazardous waste generated;

    l. the location of each hazardous waste within the facility and the quantity at each location; and,

    m. annual certification of waste minimization.

    These records shall be maintained at the facility until the completion of closure (40 CFR 264.73).

16. The Permittee shall comply with 40 CFR 264.73(b)(9) and Section 3005(h) of RCRA, 42 U.S.C. 6925(h). The Permittee shall certify, no less often than annually, that:

    a. The Permittee has a program in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

    b. The proposed method of treatment, storage or disposal is the most practicable method available to the Permittee, which minimizes the present and future threat to human health and the environment.

    c. The Permittee shall maintain copies of certification in the facility operating record as required by 40 CFR 264.73(b)(9).

d. A Pollution Prevention Plan prepared in accordance with Department of Air Force requirements will meet the requirements of Specific Conditions 17.a and b. of this Part,

17. If, at any time, the Permittee or the Department determines that contamination has migrated, or is suspected to have migrated, into any media beyond the facility [40 CFR 260.10] (other than for immediate and short-term emergency response actions), or to other areas within the facility controlled by different operators, the Permittee shall notify the Department within seven (7) calendar days of the initial discovery [Section 403.704(16) F.S., and 40 CFR 270.32(b)(2)]. Within thirty (30) calendar days of the determination, the Permittee shall submit a proposed notification letter to and a list of known and potentially affected property owners and operators, for Department approval, before the Permittee sends the notification letter to the parties listed below. Within forty-five (45) calendar days of Department approval of the notification letter, the Permittee shall notify, by certified or registered mail, at a minimum the following list of people and agencies:

    a. all property owners onto which the contamination is known or suspected by the Permittee to have migrated;

    b. all onsite operators within the facility;

    c. Water Management District(s) with jurisdiction over the geographical area containing the contaminated properties;

    d. City, county or other local environmental agencies jurisdiction over the geographical area containing the contaminated properties; and

    e. EPA Region 4.

    In addition, if groundwater contamination has migrated into any media beyond the facility or to other areas within the facility with different operators, the Permittee shall immediately notify the local unit of the Department of Health and the Bureau of Water and On-site Sewage Programs in Tallahassee at (850) 414-2889. Copies of the notification letters and proof of receipt must be submitted to the Department within 45 days of the Department's approval of the letter.

18. The Permittee will prepare a **Chemicals of Potential Concern (COPC) Guidance** document subject to Department review and approval. **The COPC Guidance** document will be specific to the Permittee's facility with regard to background concentrations of applicable constituents and will contain health-based criteria for defining Action Levels that are protective of human health and the environment. The **COPC Guidance** document will also provide a continuing assessment of the base-wide background concentrations for applicable chemical contaminants in environmental media. The COPC Guidance document will be periodically revised to reflect changes in health-based criteria and background assessments subject to Department review and approval. The Cape and Patrick IRP Teams have developed a Decision Process Document (DPD) which incorporates the intent of this condition. All media standards and criteria are reviewed periodically.

19. The conditions in this permit shall take precedence over the permit application documents where there are differences between these documents and the permit conditions.

20. As a generator of hazardous waste, the Permittee shall retain a copy of all notices, certifications, demonstrations, waste analysis data, and other documentation produced pursuant to 40 CFR Part 268 for at least three years from the date that the waste which is the subject of such documentation was last sent to on-site or off-site treatment, storage, or disposal, or until corrective action is completed, whichever date is later. These periods may be extended by request of the Department in writing at any time. These periods are automatically extended during the course of any unresolved enforcement action regarding matters addressed by this permit at this facility, provided that the Department identifies in writing the documents required to be retained.

21. The Permittee shall give written notice to the Department as soon as possible of any planned physical alterations or additions, including Permittee-initiated Interim Measures (IM) under Condition HSWA IV.11, which impact known or suspected contamination at or from SWMUs or AOCs referenced in Specific Conditions HSWA I.1, and HSWA I.6 and HSWA I.7. The notice shall include at a minimum, a summary of the planned change, the reason for the planned change, a discussion of the impact(s) the planned change will have on the ability to investigate contamination at or from the SWMU or AOC, and a discussion of the impact(s) the planned change will have on the known or suspected contamination.

22. Notification of compliance or noncompliance with any item identified in the compliance schedule in Appendix D shall be submitted according to each schedule date. If the Permittee does not notify the Department within fourteen (14) calendar days of its compliance or noncompliance with the schedule, the Permittee shall be subject to an enforcement action. Submittal of a required item according to the schedule constitutes notification of compliance.

23. The Permittee may claim confidential any information required to be submitted by this permit in accordance with Rule 62-730.310, F.A.C.

24. The Permittee shall maintain compliance with all schedules given by the Department absent a previously approved extension or national security contingencies. National security contingencies may impact upon the Permittee's ability to comply with a time period in a schedule. National security contingencies may include, but are not limited to, the total or limited denial of entry and egress from the Permittee's facility for indefinite periods of time and the necessity to immediately deploy base personnel who are responsible for meeting the requirements of this permit. The Department will consider national security contingencies as a legitimate basis for granting an extension of time periods. Upon the occurrence of national security contingencies requiring actions that impact upon compliance with a time period in a schedule, the Permittee shall notify the Department as soon as possible. The Permittee shall request an extension of time, permit modification or a variance of the permit condition to comply with a time period in a schedule and explain the reason for the request. The Department will review and process such requests within a reasonable time.

PART II - CONTAINER MANAGEMENT

1. Per 40 CFR 264.173, containers shall be kept closed, except when adding and removing waste and be handled in a manner that will not allow the containers to rupture or leak. If a container holding hazardous waste is not in good condition, or begins to leak, the waste shall be transferred to another container that is

in good condition or placed in an over-pack container. Containers must conform to DOT specification or UN performance criteria and be managed in accordance with the permit application.

2. Containers may be double stacked. The containers shall be arranged so that adequate aisle space exists between all rows of pallets and containers, such that all containers are readily visible for inspection and handling, in case of any emergency action that may be necessary due to a spill or release per 40 CFR 264.35.

3. The Permittee shall store hazardous waste drums grouped according to their compatibility, as outlined in the permit application.

4. The maximum amount of hazardous waste stored in container storage Facility 44205 shall not exceed two hundred (200) 55-gallon drums, or 11,000 gallons. The maximum amount of hazardous waste stored in container storage Facility 44200 shall not exceed sixty-four (64) 55-gallon drums, or 3,250 gallons.

5. Per 40 CFR 264.177(a), and (b), incompatible waste shall not be stored in containers or placed in unwashed containers that have previously held an incompatible waste.

6. Per 40 CFR 264.175(b)(5), spilled or leaked waste shall be removed from the sump or collection area in a timely manner to prevent overflow of the collection system.

7. Per 40 CFR 264.177(c), a storage container holding a hazardous waste which is incompatible with any waste or other materials stored nearby in other containers, shall be separated from the other materials or protected from them by means of a dike, wall, berm or other device.

8. Per 40 CFR 264.174, the Permittee shall inspect the drum storage area at least weekly, or in accordance with the schedule and procedures specified in the permit application, whichever is more frequent.

9. All containers shall be managed in accordance with the approved "Waste Container Management Plan", of OPLAN 19-14, Appendix F of the permit application. Should the Waste Container Management Plan require modification due to changes in DOT specifications for packaging, a modified Container Management Plan shall be submitted to the Department within 60 days of the effective date of such changes. The Permittee will package all waste for transportation or storage under the guidelines for package applications and exceptions under 49 CFR 173. Each package will meet the testing requirements under 49 CFR 178, as it applies to each individual package.

10. The Permittee shall have signs designating the storage segregation in the permitted areas as outlined in the permit application.

11. Per 40 CFR 264.176, the Permittee shall comply with the 15 meters (50 feet) setback rule concerning the storage of ignitable and reactive wastes in containers.

PART III – THERMAL TREATMENT UNIT

1. The Permittee is allowed to thermally treat munitions and explosives contaminated items by Open Burn (OB) or Open Detonation (OD) at the Explosive Ordnance Disposal (EOD) Range. The Permittee is also

allowed to thermal treat the hazardous waste generated from sources located on Cape Canaveral Air Force Station including commercial launch operations, Kenndy Space Center, and as outlined in Part II.A(5) of the permit application. In the event, that items meeting Department of Defense (DOD) criteria are composed of explosive items not listed in Tables A(5)-1 and A(5)-2 of Part II.A(5) of the permit Application, Department approval must be obtained to perform Open Burning or Open Detonation. Additional requirements are as follows:

a. The Open Burn and Open Detonation activities may only be accomplished by Explosive Ordnance Disposal (EOD) Personnel or civilian contractors specifically trained in accordance with Explosive Ordnance Disposal Procedures and under the following conditions:

(1) Daylight hours,
(2) Wind speeds less than or equal to 15 mph,
(3) No electrical storms within 3 miles of the OB Unit,
(4) No forecast of a major storm, and
(5) No inversion forecast,
(6) Maximum of 60 pounds of Net Explosive Weight (NEW) treated per day.

2. The Permittee shall comply with waste compatibility requirements of 40 CFR 264.17(b).

3. The Permittee shall follow the procedures described in the waste analysis plan, Section II.A(6) of the permit application. The Permittee shall repeat the waste analysis specified in 40 CFR Part 264.13 as necessary to ensure that it is accurate and up to date. If changes are needed in the "Waste Analysis Plan", of the permit application, the Permittee shall notify the Department within 30 days.

4. The Permittee shall provide adequate fire protection to assure confinement and control of any fire resulting from the operation, as specified in Part II.A(5), Section X of the Contingency Plan.

5. The Permittee shall maintain an operating record describing the OB/OD activities. The report shall include the following information:

a. Description and quantity of each hazardous waste received and treated at the unit.

b. Dates of its treatment.

c. Summary reports and details of all incidents that require implementation of the contingency plan at the unit.

d. Weather conditions to include humidity, weather forecast, wind speed, and wind direction at each event.

e. Copies of manifests showing disposition of burn residues and/or the quantity of burn residues on site at the end of the reporting period.

f. Details of any problems discovered during inspections conducted and details of remedial actions taken.

6. The Permittee shall inspect the EOD facility in accordance with the schedule approved in Part II.I(9)(a), Figure II.(9)-1 of the permit application. The Permittee shall remedy any deterioration or malfunction discovered by an inspection, in accordance with the requirements of 40 CFR 264.15(c). Changes, additions, or deletions to the schedule must be approved in writing by the Department. The schedule must be maintained as part of the operating record of the facility (40 CFR 264.15).

7. The Permittee shall maintain compliance with the environmental performance standards listed in 40 CFR 264.601 at all times.

8. The OB operation is performed at a designated location, described as Waste Management Area #1 (WMA #1), as depicted in Attachment 4 of this permit. The burn may be initiated by placing wood and virgin diesel fuel in the OB Unit and igniting it along with the explosives. The fuel should be minimized to that absolutely necessary to accomplish the OB mission. All burns are ignited remotely by use of a time fuse or excelsior train. The waste streams to be treated are generated from sources outlined in Tables A(5)-1 and A(5)-2 of Part II.A(5) of the permit application and described in Attachments 5 and 6 of this permit.

   a. The integrity of the OB Units must be evaluated each year and a report submitted.

   b. Upon completion of the burn (at least 12 hours and not longer than next day) EOD personnel shall inspect the area for ejected particles and dispose of them properly.

   c. The residue shall be collected and tested to determine if the waste is a characteristic hazardous waste.

      (1) The initial residue container shall be clearly labeled “Hazardous Waste Pending Analysis” and labeled with the appropriate log number. The date of the burn, and any additional information on the burn can be referenced by the log number on the container.

      (2) If the residue is shown to be a characteristic waste, the waste shall be placed in a properly labeled satellite accumulation container and disposed of as a hazardous waste.

      (3) If the residue is not a hazardous waste, the waste may be disposed of through DRMO or at a permitted solid waste disposal facility.

   d. After the OB event is concluded, a metal cover shall be placed over the OB unit.

9. The (OD) operation of military munitions is performed at a designated location, described as Waste Management Area #2 (WMA #2), approximately 150’ x 50’ in area on the EOD Range, as depicted in Attachment 4 of this permit. The waste streams to be treated are generated from sources outlined in

Tables A(5)-1 and A(5)-2 of Part II.A(5) of the permit application and described in Attachments 5 and 6 of this permit.

a. The OD operations shall only be performed by EOD personnel or civilian contractors specifically trained in accordance with standard Explosive Ordnance Disposal Procedures and under the conditions listed above in Paragraph 1(a)(1).

b. The Net Explosive Weight (NEW) treated by OD operation shall not exceed that outlined in Part II.A(5), Table A(5)-1 of the permit application.

c. At the conclusion of the operation the EOD personnel shall visually inspect fragments to determine if energetic residue remains. Those fragments containing residue will be immediately detonated in place.

d. All non-explosive scrap metal produced during the OD operation shall be collected and disposed of through DRMO or at permitted solid waste facility.

PART IV. - GROUNDWATER & SOIL MONITORING –THERMAL TREATMENT UNIT

1. The facility shall be in Detection Monitoring in accordance with 40 CFR 264.98 and shall sample the required parameters semiannually.

2. The facility shall do an annual soil-monitoring program.

3. The Waste Management Areas (40 CFR 264.95 (b)) shall be designated by imaginary lines circumscribing the OB/OD Range as indicated in Attachment II.A-1, Topographic Map #1 of the permit application and Attachment 4 of this permit.

4. The Point of Compliance (POC) as defined under 40 CFR 264.95 (a) shall be an imaginary vertical surface at the downgradient boundary of the Waste Management Area and shall extend down into the uppermost aquifer. This line which is about 100 feet downgradient of Waste Management Area II, and parallel to the shoreline, is depicted in Attachment 4 of this permit.

5. The POC wells and the background wells shall be as follows:

   a. MW-3, MW-4, and MW-5 are POC wells.
   b. MW-1 and MW-2 are background wells.

   If future groundwater elevation monitoring indicates a change in groundwater flow direction, this Permit may be modified to require the installation of additional monitoring wells and/or make other necessary revisions to the groundwater monitoring plan.

6. Pursuant to 40 CFR 264.98(d), the Permittee shall perform sampling for all constituents listed in Specific Condition 12 of this Part on monitor wells MW-1, MW-2, MW-3, MW-4, and MW-5, in May, and November, pursuant to 40 CFR 264.98(d).

7. The Permittee shall submit to the Department groundwater monitoring reports that include information required pursuant to Specific Conditions Part IV 8, 9, 10, 11, 13, and 16 of this Part. The groundwater monitoring data from the May sampling event shall be submitted no later than the last day of July; the data from the November sampling event shall be submitted no later than the last day of next January. If, for any reason, the Permittee is unable to submit these reports within the specified time, the Permittee must comply with General Condition 8.

8. All analyses shall be performed on unfiltered groundwater samples. Analyses on filtered samples may be performed for the facility's own use. [Rule 62-730.220(5)(h)(2)].

9. The Permittee shall measure groundwater surface elevations each time any well is sampled prior to each sampling event (40 CFR 264.97(f)). All groundwater elevations must be measured within the same eight-hour period. These data shall be used to determine the quarterly groundwater flow directions and flow rates.

10. Total depth of all wells must be determined by physical measurement in August of every year to determine if siltation of any well has occurred. If in-filling or siltation of any well has occurred, the discovery, and any corrective action taken, shall be reported to the Department in next groundwater report.

11. All groundwater sampling and analysis shall be conducted in accordance with the Quality Assurance Project Plan (QAPP) dated November 30, 1998 and approved by the Department on May 10, 1999. The Permittee shall revise the QAPP whenever there is a change in sampling and/or analytical procedures, including field organization or laboratory. The revised plan or revisions must be submitted to the Department for approval of such changes, prior to the sampling event under the revised QAPP.

12. The Permittee shall sample all wells, specified in Specific Condition 5 of this Part, for the following indicator parameters:

    HMX (Octahydro-1,3,5,7-tetra-nitro-1,3,5,7-tetrazocine)
    RDX(hexahydro-1,3,5-tri-nitro-1,3,5-triazine)
    1,3,5-trinitrobenzene (1,3,5-TNB)
    methyl-2,4,6-trinitrophenylnitramine
    1,3-dinitrobenzene (1,3-DNB)
    nitrobenzene
    2,4,6-trinitrotoluene (2,4,6-TNT)
    4-amino-2,6-dinitrotoluene (4-Am-DNT)
    2-amino-4,6-dinitrotoluene (2-Am-DNT)
    2,4-dinitrotoluene (2,4-DNT)
    2,6-dinitrotoluene (2,6-DNT)
    2-nitrotoluene(2-NT)
    3-nitrotoluene (3-NT)
    4-nitrotoluene(4-NT)
    nitroglycerin
    PETN (pentaerythritol tetranitrate)

nitrate
nitrite
sulfate
diethylphthalate
arsenic
lead
selenium
potassium
titanium
magnesium
barium
vanadium
chromium
cadmium
copper
aluminum

13. The Maximum Contaminant Level (MCL) (40 CFR 264.94 and 1999 Florida Ground Water Concentration Guidelines) for the constituents in Specific Condition 12 of this Part are as follows:

PARAMETERS	UNIT	CONCENTRATION
HMX	µg/L	350
RDX	µg/L	1
1,3,5-trinitrobenzene	µg/L	210
methyl-2,4,6-trinitrophenylnitramine	µg/L	370
1,3-dinitrobenzene	µg/L	8
nitrobenzene	µg/L	4
2,4,6-TNT	µg/L	10
4-amino-2,6-dinitrotoluene	µg/L	PQL*
2-amino-4,6-dinitrotoluene	µg/L	PQL*
2,4-dinitrotoluene	µg/L	0.1
2,6-dinitrotoluene	µg/L	0.1
2-nitrotoluene	µg/L	250
3-nitrotoluene	µg/L	250
4-nitrotoluene	µg/L	250
nitroglycerine	µg/L	PQL*
PETN	µg/L	PQL*
nitrate	mg/L	10
nitrite	mg/L	1
sulfate	mg/L	250
diethyl phthalate	µg/L	5,600
arsenic	mg/L	0.05
lead	mg/L	0.015

selenium	mg/L	0.05
potassium	mg/L	NL
titanium	mg/L	NL
magnesium	mg/L	NL
barium	mg/L	2
vanadium	mg/L	0.049
chromium	mg/L	0.1
cadmium	mg/L	0.005
copper	mg/L	1
aluminum	mg/L	0.2

μg/L = *microgram per liter*
mg/L = milligrams per liter
PQL = practical quantitation limit, which is the minimum concentration of a chemical that can be measured and reported in accordance with the QAPP.
NL = Not Listed

*For any sampling event, the background concentrations, MCL or PQL shall serve as the MCL, whichever is higher.

14. The Permittee shall use the appropriate statistical procedure(s) included in the EPA guidance document "Statistical Analysis of Ground-water Monitoring Data at RCRA Facilities, dated April, 1989" to determine the statistical significance of evidence of contamination for any constituents listed in Specific Condition 12 of this part in accordance with 40 CFR Part 264.98. The facility may propose an alternate statistical test, subject to Department approval.

15. The Permittee shall, at a minimum, inspect the integrity of groundwater monitoring wells during each groundwater monitoring event and notify the Department in writing of any damage requiring repair (not maintenance) to the groundwater monitoring wells and provide a schedule for repair within next groundwater report. A description of repairs shall be provided within next groundwater report after the damage has been corrected.

16. Abandonment of monitoring wells shall be performed in accordance with Rule 62- 532.500 (4), F.A.C.

17. If the Permittee determines that there is a statistically significant exceedence of MCLs or background concentrations for any hazardous constituent (s), unless it can be demonstrated that these exceedences are caused by another source or are artifacts of sampling or are the result of errors in analysis or statistical evaluation or are due to natural variations in the groundwater, the Permittee shall:

    a. Notify the Department within seven calendar days of the results of statistical tests confirming contamination.

b. Sample the groundwater at the well most representative of the groundwater quality at the associated Waste Management Area and determine whether constituents listed in 40 CFR Part 264 Appendix IX are present, and if so, in what concentration.

c. For any 40 CFR Part 264, Appendix IX compounds detected in the analysis pursuant to Specific Condition 17.b of this Part, the Permittee may resample within one month to repeat the analysis for those newly detected constituents unless it can be demonstrated the occurrence of these constituents is due to other source or error. If the results of the second analysis confirm the initial results, then these newly detected constituents will be included in the compliance monitoring list provided in Specific Condition 12 of this part. If the Permittee chooses not to resample for the newly detected compounds, then they will form the basis along with the parameters already sampled for compliance monitoring.

18. The Permittee shall provide opportunities for site inspections and sample splits with the Department by informing the Department at least 14 working days in advance of all monitoring well sampling.

PART V - CLOSURE REQUIREMENTS

1. Per 40 CFR Part 264 Subparts G, 264.178 and 264.197**,** the Permittee shall have a written closure plan as required by 40 CFR 264.112 and described in Attachment VII, "Closure Plan for Hazardous Waste Storage Facility", of the permit application. The Permittee shall close the storage facilities in accordance with the closure plan outlined in the permit application. The closure plan and all revisions to the plan must be kept at the facility until closure is completed, certified, and accepted by the Department.

2. The Permittee shall decontaminate and/or dispose of all facility equipment as required by 40 CFR 264.114, 264.178, 264.197, and Attachment VII, "Closure Plan for Hazardous Waste Storage Facility," of the permit application dated March 19, 1996.

3. The Permittee shall close the OB/OD Units located at the EOD Range in accordance with the provisions outlined in Attachment II.A-3, EOD Closure Plan, of the permit application. The units shall be closed as follows:

   a. Metallic materials shall be collected and segregated to insure that any unexploded ordnance is properly treated before the metals are transported to the Defense Reutilization and Marketing Office (DRMO) at Patrick AFB for recycling or disposal at a permitted solid waste disposal facility.

   b. The burn-boxes shall be decontaminated by a manual scrub-down using a detergent solution (Alcanox or equal) and stiff, non-metallic brushes. This work will be accomplished as a hazardous waste operation and the wash-water and residuals will be collected/managed as a hazardous waste, including the use of the proper protective equipment for the operators.

      Following decontamination, the burn-boxes shall be sampled with surface wipe testing and analyzed for the following parameters: reactivity, arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, 2,4 DNT and explosives. Analysis results will be sent to the address in Part I .1c, the Department will determine when decontamination is considered complete;

upon notification of completion from the Department the burn-boxes may be removed from the range for recycling.

c. A soil sample will be taken near each corner of the asphalt pad at the OB area. Samples will be taken from the surface to a depth of 10 inches and analyzed for the parameters listed in Part II.A-3, EOD Closure Plan, of the permit application.

d. Soil sampling, analysis, and removal actions will also be performed at the OD site which is a sandy area approximately 150' x 50'. Five soil samples will be randomly selected in the pit or trench area. In addition, the entire OD area will be surveyed and staked into a grid of 50' squares. A soil sample will be taken at the corners of each square from the surface to a depth of 10". The sample will be analyzed for total metals, for each RCRA metal.

e. Groundwater sampling shall be conducted in accordance with Part III.B of this permit.

f. This permit shall be modified to include post closure activities if clean closure cannot be achieved.

4. Per 62-730.260 F.A.C., the Permittee shall apply for renewal of the closure permit at least 180 days prior to its expiration throughout the closure and post closure period.

5. The Permittee shall verify clean closure by demonstrating that cleanup parameters meet or exceed the clean closure limits determined at the time of closure.

6. The owner or operator shall close the unit in a manner that:

   a) Minimizes the need for further maintenance; and

   b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and

   c) Complies with the closure requirements of this Subpart, including but not limited to, the requirements of 40 CFR Part 264.111.

7. The Permittee shall notify the Department 45 days prior to the date on which he expects to begin partial or final closure of a unit(s) [40 CFR 264.112(d)].

8. The Permittee shall manage all hazardous wastes, residues, sludges, spilled or leaked waste, or contaminated liquids and soils removed during closure of the unit(s) in accordance with the applicable provisions of 40 CFR Parts 260 through 270 and 62-730, F.A.C., including the manifest requirements. A copy of each manifest required, as a result of closure activities shall be submitted to the Department with the Closure Certification.

9. The Permittee shall submit a written request for a permit modification to authorize a change in the closure plans in accordance with the procedures in 62-730 F.A.C. The written request must include a copy of the amended closure plan for Department approval [40 CFR 264.112].

10. The Permittee shall complete closure activities within 180 days after Department approval of the closure plan. Any changes in the time allowed for closure of the units after approval shall require prior Departmental approval [40 CFR 264.113].

11. Within sixty (60) calendar days of the completion of closure, the Permittee shall submit to the Department a report signed by the Permittee and an independent, Professional Engineer, stating the facility has been closed in accordance with the Closure Plan in the permit application (40 CFR Part 264.115). The Closure Certification must be based on the Professional Engineer's own observation and knowledge of the closure activities. The Certification of Closure must include, but not be limited to, the following:

    a. Soil sampling data to verify clean closure;

    b. Decontamination data;

    c. Copies of the manifests generated during the removal of all hazardous wastes and all contaminated residues containing hazardous constituents;

    d. Groundwater monitoring data summary pertaining to closure activities;

    e. A description of the summary of final closure activities;

    f. A final inspection check-off sheet.

12. The Permittee shall provide opportunities for site inspections by the Department by informing the Hazardous Waste Program Manager, Central District Office of the Department at least ten (10) calendar days in advance of any physical closure activity (e.g. soil sampling, groundwater sampling, soil removal, etc.).

13. The Permittee shall notify the Department within ten (10) calendar days of the determination that actions undertaken as part of closure or associated monitoring programs no longer satisfy the requirements set fourth in this permit. If the Department determines that a modification of the permit is required, the Permittee shall, within sixty (60) calendar days of receiving written notification from the Department, submit an application for a permit modification in accordance with 62-730.290 and 62-4.050 Florida Administrative Code (F.A.C.), to make appropriate changes to the permit.

PART VI - ORGANIC AIR EMISSIONS REQUIREMENTS

1. In the June 21, 1990, Federal Register, EPA published the final rule for Phase I Organic Air Emission Standards [40 CFR Parts 264 and 265, Subparts AA and BB] for hazardous waste treatment, storage, and disposal facilities. Subpart AA contains emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping

operations that process hazardous waste with an annual average total organic concentration of at least ten (10) parts per million by weight (ppmw) Subpart BB contains emission standards that address leaks from specific equipment (*i.e*., pumps, valves, compressors. *etc*.) that contains or contacts hazardous waste that has an organic concentration of at least ten (10) percent by weight.

2. Prior to constructing any equipment with process vents subject to the requirements of 40 CFR Part 264, Subpart AA or installing any additional equipment subject to the requirements of 40 CFR Part 264, Subpart BB, the Permittee shall supply the specific Part B information required pursuant to 40 CFR Parts 270.24 and 270.25, as applicable.

3. On December 6, 1994, EPA published the final rule for Phase II Organic Air Emissions Standards (40 CFR Parts 264 and 265, Subpart CC) for hazardous waste treatment, storage and disposal facilities, including certain hazardous waste generators accumulating waste on-site in RCRA permit-exempt (90-day) tanks and containers. Major clarifications to the rule were published on February 9, 1996, November 25, 1996, and December 8, 1997. In general, under these standards air emissions controls must be used for tanks, surface impoundments, containers and miscellaneous units which contact hazardous waste containing an average organic concentration greater than 500 ppmw at the point of origination determined by the procedures outlined in 40 CFR 264.1083(a), except as specifically exempted under 40 CFR 264.1080 and .1082.

4. Prior to installing any tank, container, surface impoundment or miscellaneous unit subject to 40 CFR Part 264, Subpart CC, or modifying an existing process, waste handling or tank or container such that the unit(s) will become subject to 40 CFR Part 264 Subpart CC, the Permittee shall apply for a permit modification under 40 CFR 270.22 and provide specific Part B application required under 40 CFR 270.14-17 and 40 CFR 270.27, as applicable with the modification request and fee.

HSWA CONDITIONS

HSWA PART I – CORRECTIVE ACTION

1. The Conditions of this Part apply to:

   a. The solid waste management units (SWMUs) and areas of concern (AOCs) identified in **Appendix A-1**, which require a RCRA Facility Investigation (RFI);

   b. The SWMUs and AOCs identified in **Appendix A-2**, which require no further action under this permit at this time;

   c. The SWMUs and AOCs identified in **Appendix A-3**, which require confirmatory sampling;

   d. The SWMUs and AOCs identified in **Appendix A-4**, which require corrective action;

   e. Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means; As used in this Part of the permit, the terms "discover", "discovery", or "discovered" refer to the date on which the Permittee either,

(1). visually observes evidence of a new SWMU or AOC;

(2). visually observes evidence of a previously unidentified release of hazardous constituents to the environment; or,

(3). receives information which suggests the presence of a new release of hazardous waste or hazardous constituents to the environment.

f. Contamination that has migrated beyond the facility boundary, if applicable. The Permittee shall implement corrective actions beyond the facility boundary where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Department that, despite the Permittee's best efforts, as determined by the Department, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee shall use all reasonable efforts, including but not limited to correspondence, telephone calls, personal contacts, drafting and redrafting agreements, and payment of a fee, to obtain any access to real property necessary for work to be performed in the implementation of this permit. If necessary access cannot be obtained by the Permittee, or if obtained, is revoked by owners or entities controlling access to the properties to which access is necessary, the Permittee shall notify the Department within five (5) business days of such refusal or revocation. The Department may at any time thereafter seek to obtain such access as is necessary to implement the terms of this permit. The Permittee shall reimburse the Department for any damages, costs, or expenses, including expert and attorneys' fees, that the Department is ordered to pay, or that the Department incurs in connection with its efforts to obtain necessary access to said property. The Permittee shall pay these sums to the Department, or arrange a payment schedule with the Department, within 30 days of demand by the Department. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis.

2. The Permittee shall notify the Department in writing, within fifteen (15) calendar days of discovery, of any suspected new AOC discovered under Specific Condition 1.e of this Part. The notification shall include, at a minimum, the location of the AOC and all available information pertaining to the nature of the release (*e.g.*, media affected, hazardous constituents released, magnitude of release, *etc*.). The Department may conduct, or require that the Permittee conduct, further assessment (*i.e.*, Confirmatory Sampling) in order to determine the status of the suspected AOC. The Department will notify the Permittee in writing of the final determination as to the status of the suspected AOC. If the Department determines that further investigation of an AOC is required, the permit will be modified in accordance with Rule 62-730.290, F.A.C.

3. The Permittee shall notify the Department in writing, within fifteen (15) calendar days of discovery, of any additional SWMU discovered under Specific Condition 1.e of this Part.

4. The Permittee shall prepare and submit to the Department, within ninety (90) calendar days of notification, or within the timeframe established in a letter from the Department, which notifies the

Permittee that a SWMU Assessment Report (SAR) is necessary. At a minimum, the SAR shall provide the following information:

a. Location of unit(s) on a topographic map of appropriate scale such as required under 40 CFR 270.14(b)(19).

b. Designation of type and function of unit(s).

c. General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings).

d. Dates that the unit(s) was (were) operated.

e. Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous constituents in the wastes.

f. All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater data, soil analyses, air, and/or surface water data).

5. Based on the results of the SAR, the Department shall determine the need for further investigations at the SWMUs covered in the SAR. If the Department determines that such investigations are needed, the Permittee upon receiving written notification from the Department shall be required to prepare a plan for such investigations as outlined in Specific Conditions HSWA Part II.3 or HSWA Part III.3.

6. The Permittee shall notify the Department in writing of any newly discovered release(s) of hazardous waste or hazardous constituents discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, within fifteen (15) calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in Specific Condition 1.e of this Part or SWMUs or AOCs identified in further investigation under Specific Condition 5 of this Part was not required

7. If the Department determines that further investigation of the SWMUs or AOCs is needed, the Permittee upon receiving written notification from the Department shall be required to prepare a plan for such investigations as outlined in Specific Condition HSWA III.3.

8. All sampling and analyses shall be performed in accordance with the Department-approved **Base wide Environmental Restoration Workplan** (most current version) and **Base wide Quality Assurance Program Plan** (most current version).

HSWA PART II – CONFIRMATORY SAMPLING (CS)

1. Because confirmatory sampling has already been implemented at many of the units identified in Specific Condition HSWA Part I.1.c, the CS requirements shall be interpreted as follows: If a CS Work Plan has not been submitted for a unit, then Specific Conditions 2 or 3 of this Part initiates the CS Requirement. If a CS Work Plan has already been submitted for a unit, then Specific Conditions 4

through 7 of this Part govern implementation of the CS requirements for this unit. If a CS Work Plan has already been submitted and approved for a unit, then Specific Conditions.5 through 7 of this Part govern implementation of the CS requirements for this unit. If the CS Report has already been submitted to the Department for review, then Specific Condition 7 of this Part is applicable for this unit.

2. The Permittee shall prepare and submit a Confirmatory Sampling (CS) Work Plan via an Advanced Data Package (ADP) as previously decided by the Cape/Patrick Team, for each unit identified under Specific Condition HSWA Part I.1.c. The CS Work Plan shall be submitted according to the schedule of compliance outlined in Appendix D or in accordance with the latest CAMP approved by the Department. The CS Work Plan shall include schedules of implementation and completion of specific actions necessary to determine whether or not a release has occurred. It should also address applicable requirements and affected media. In order to partly or wholly satisfy the CS requirement, the use of data obtained outside of the permit structure may be submitted with the work plan for the Department's review and approval.

3. Upon notification by the Department, the Permittee shall prepare and submit a Confirmatory Sampling (CS) Work Plan for suspected AOCs per Specific Condition HSWA Part I.2. or newly identified SWMUs per Specific Condition HSWA Part I.5. Unless the notification letter specifically establishes a different time frame for work plan submittal, the work plan shall be submitted within one hundred (120) calendar days of notification by the Department that a CS Work Plan is required. The CS Work Plan shall meet the basic requirements listed in Specific Condition 2 of this Part.

4. The CS Work Plan must be approved by the Department, in writing, at a telephone conference, or Team meeting prior to implementation. The Department shall specify the start date of the CS Work Plan schedule in the letter approving the CS Work Plan. However, the Permittee(s) is free to proceed at its own risk with the actions outlined in the work plan(s) if it has not received a response from FDEP within 45 days of receipt of the work plan(s) by the Department. However, any such action would be at the Permittee's own risk, with the understanding that if the voluntary action does not meet the requirements of the permit, the Permittee is obligated to correct the situation. If the Department disapproves the CS Work Plan, the Department shall either

    a. notify the Permittee in writing of the CS Work Plan's deficiencies and specify a due date for submission of a revised CS Work Plan;

    b. revise the CS Work Plan and notify the Permittee of the revisions; or,

    c. conditionally approve the CS Work Plan and notify the Permittee of the conditions.

5. The Permittee shall implement the confirmatory sampling in accordance with the approved CS Work Plan.

6. The Permittee shall prepare and submit to the Department in accordance with the schedule in the approved CS Work Plan, a Confirmatory Sampling (CS) Report identifying those SWMUs or AOCs that have released hazardous waste or hazardous constituents into the environment. The CS Report shall include an analysis of the analytical data to support the above determination. The Action Levels

in the current *COPC Guidelines* should be used for comparative purposes in the data evaluation process.

7. Based on the results of the CS Report, the Department shall determine the need for further investigations at the SWMUs or AOCs covered in the CS Report. If the Department determines that such investigations are needed, the Permittee upon receiving written notification from the Department shall be required to prepare a plan for such investigations as outlined in Specific Condition HSWA Part III.3. The Department will notify the Permittee of any no further action decision.

HSWA PART III - RCRA FACILITY INVESTIGATION (RFI)

1. Because a RCRA Facility Investigation (RFI) has already been implemented for many of the units identified in Specific Condition HSWA Part I.1.c, the RFI requirements shall be interpreted as follows: If an RFI Work Plan has not been submitted for a unit, then either Specific Condition 2 or 3 of this Part initiates the RFI Requirement. If an RFI Work Plan has already been submitted, then Specific Conditions 5 through Condition 10 of this Part control the RFI requirements for this unit. If an RFI Work Plan has already been submitted and approved for a unit, then Specific Conditions 6 through 10 of this Part and beyond govern implementation of the RFI requirements for this unit. If the RFI Report for a unit has already been submitted to the Department for review, then Specific Condition 10 of this Part apply.

2. The Permittee shall prepare and submit to the Department a RCRA Facility Investigation (RFI) Work Plan(s) or ADP for those units identified in Specific Condition HSWA Part I.1.a. The RFI Work Plan shall be submitted according to the schedule established in Appendix D. This Work Plan shall be developed to meet the requirements of Specific Condition 4 of this Part.

3. Upon notification by the Department, the Permittee shall prepare and submit to the Department an RFI Work Plan for those units identified under Specific Condition HSWA Part I.5, HSWA Part I.7, or HSWA Part II.7. Unless the notification letter specifically establishes a different timeframe for work plan submittal, the work plan shall be submitted within one hundred-eighty (180) calendar days of notification by the Department that an RFI Work Plan is required. The RFI Work Plan(s) shall be developed to meet the requirements of Specific Condition 4 of this Part.

4. The RFI Work Plan(s) shall meet the requirements of Appendix B. The RFI Work Plan(s) shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of contamination and the potential pathways of contaminant releases to the air, soil, surface water, and groundwater. The Permittee must provide sufficient justification and associated documentation that a release is not probable or has already been characterized if a unit or a media/pathway associated with a unit (groundwater, surface water, soil, subsurface gas, or air) is not included in the RFI Work Plan(s). Such deletions of a unit, media or pathway from the RFI(s) are subject to the approval of the Department. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix B. Such omissions or deviations are subject to the approval of the Department. In addition, the scope of the RFI Work Plan(s) shall include all investigations necessary to ensure compliance with 40 CFR 264.101(c).

5. The RFI Work Plan(s) must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the RFI Work Plan schedule in the letter approving the RFI Work Plan(s). However, the Permittee(s) is free to proceed at its own risk with the actions outlined in the work plan(s) if it has not received a response from FDEP within 45 days of receipt of the work plan(s) by the Department. However, any such action would be at the Permittee's own risk, with the understanding that if the voluntary action does not meet the requirements of the permit, the Permittee is obligated to correct the situation. If the Department disapproves the RFI Work Plan(s), the Department shall either:

    a. notify the Permittee in writing of the RFI Work Plan's deficiencies and specify a due date for submission of a revised RFI Work Plan;

    b. revise the RFI Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved RFI Work Plan; or,

    c. conditionally approve the RFI Work Plan and notify the Permittee of the conditions.

6. The Permittee shall implement the RFI(s) in accordance with the approved RFI Work Plan(s) and Appendix B.

7. If the time required to conduct the RFI(s) is greater than one hundred eighty (180) calendar days, the Permittee shall provide the Department periodically with RFI Progress Reports beginning on the date specified by the Department in the RFI Work Plan approval letter. The notifications between Permittee and the Department and approvals by the Department may be made in emails, by formal letters, or other alternate reporting or approval processes, as authorized by the Department. The Progress Reports and ADPs shall contain the following information at a minimum:

    a. a description of the portion of the RFI completed;

    b. summaries of findings (including a summary of the analytical results);

    c. summaries of any deviations from the approved RFI Work Plan during the reporting period;

    d. summaries of any significant contacts with local community public interest groups or State government;

    e. Summaries of any problems or potential problems encountered during the reporting period;

    f. Actions taken to rectify problems;

    g. Changes in relevant personnel;

    h. Projected work for the next reporting period, including the forecast of expected field work; and,

    i. Summaries of significant items found in daily reports, inspection reports, *etc*.

8. The Permittee shall prepare and submit to the Department Draft and Final RCRA Facility Investigation Report(s) for the investigations conducted pursuant to the RFI Work Plan(s) submitted under Specific Condition 1 of this Part. The Draft RFI Report(s) shall be submitted to the Department for review in accordance with the schedule in the approved RFI Work Plan(s). The Final RFI Report(s) shall be submitted to the Department within ninety (90) calendar days of receipt of the Department's final comments on the Draft RFI Report. The RFI Report(s) shall include an analysis and summary of all required investigations of SWMUs and AOCs and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, identify all hazardous constituents present in all media, and describe actual or potential receptors. The RFI Report(s) shall also describe the extent of contamination (qualitative/ quantitative) in relation to background levels indicative of the area. If the Draft RFI Report is a summary of the initial phase investigatory work, the report shall include a work plan for the final phase investigatory actions required based on the initial findings. Approval of the final phase work plan shall be carried out in accordance with Specific Condition 5 of this Part. The objective of this task shall be to ensure that the investigation data are sufficient in quality (*e.g.*, quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support a Corrective Measures Study, if necessary.

9. The Permittee shall prepare and submit to the Department, along with the Draft and Final RFI Report(s), action levels for each of the hazardous constituents reported in Specific Condition 8 of this Part. Action levels shall be calculated as specified in Appendix E.

10. The Department will review the RFI Report(s), including the action levels described in Specific Condition 9 of this Part. The Department shall notify the Permittee of the need for further investigative action if necessary and, if appropriate at this moment of the investigation, inform the Permittee, if not already notified, of the need for a Corrective Measures Study to meet the requirements of HSWA Part V and 40 CFR 264.101. The Department will notify the Permittee of any no further action decision. Any further investigative action required by the Department shall be prepared and submitted in accordance with a schedule specified by the Department and approved in accordance with Specific Condition 5 of this Part.

HSWA PART IV – INTERIM MEASURES (IM)

Note: In this Permit, the term Interim Measures (IM) is equivalent to Interim Corrective Measures (ICMs). The IM/ICM can be performed during any phase of work at a site, for example, during the SAR, Confirmatory Sampling, or RFI, CMS or CMI.

1. Because Interim Measures have already been implemented for many of the units identified in Specific Condition HSWA Part I.1.e, the IM requirements shall be interpreted as follows: If a required IM Work Plan has not been submitted for a unit, then Specific Conditions 2 through 10 of this Part apply. If IM has not been imposed for a unit, then Specific Conditions 3 through 10 of the Part apply. If an IM Work Plan has already been submitted but is unapproved, then Conditions 4 through 10 of the Part control the IM for this unit. If an IM Work Plan has already been submitted and approved for a unit, then Specific Conditions 6 through 10 of this Part govern implementation of the IM requirements for this unit.

2. The Permittee shall prepare and submit an Interim Measures (IM) Work Plan or ADP for those units identified by the Permittee and approved by the Department. The IM Work Plan shall be submitted according to the schedule outlined in Appendix D. IMs are necessary in order to minimize or prevent the further migration of contaminants thereby limiting current and future potential for human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented. The work plan shall include the elements listed in Specific Condition 4 of this Part.

3. Upon notification by the Department, the Permittee shall prepare and submit an Interim Measures (IM) Work Plan for any SWMU or AOC that the Department determines is necessary. Unless the notification letter specifically establishes a different time frame for work plan submittal, the work plan shall be submitted within one hundred twenty (120) calendar days of notification by the Department that an IM Work Plan is required. The work plan shall include the elements listed in Specific Condition 4 of this Part. The Permittee may initiate IM by submitting an IM Work Plan for approval and reporting in accordance with the requirements of this Part.

4. The IM Work Plan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with and integrated into any long-term solution at the facility. The IM Work Plan shall include: the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation. Interim measures may be conducted concurrently with investigations required under the terms of this permit.

5. The IM Work Plan must be approved by the Department, in writing, prior to implementation. This approval may be made in emails, by formal letters, or other alternate reporting or approval processes, as authorized by the Department. The Department shall specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan. However, the Permittee(s) is free to proceed at its own risk with the actions outlined in the work plan(s) if it has not received a response from FDEP within 45 days of receipt of the work plan(s) by the Department. However, any such action would be at the Permittee's own risk, with the understanding that if the voluntary action does not meet the requirements of the permit, the Permittee is obligated to correct the situation. If the Department disapproves the IM Work Plan, the Department shall either

    a. notify the Permittee in writing of the IM Work Plan's deficiencies and specify a due date for submission of a revised IM Work Plan;

    b. revise the IM Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved IM Work Plan; or,

    c. conditionally approve the IM Work Plan and notify the Permittee of the conditions.

6. The Permittee shall implement the interim measures in accordance with the approved IM Work Plan.

7. The Permittee shall give notice to the Department as soon as possible of any planned changes, reductions or additions to the IM Work Plan.

8. Final approval of corrective action required under 40 CFR 264.101 which is achieved through interim measures shall be in accordance with 40 CFR 270.41 and HSWA Part VI as a permit modification.

9. If the time required for completion of interim measures is greater than one year, the Permittee shall provide the Department with progress reports at intervals specified in the approved Work Plan. The Progress Reports shall contain the following information at a minimum:

    a. a description of the portion of the IM completed;

    b. summaries of findings;

    c. summaries of any deviations from the IM Work Plan during the reporting period;

    d. summaries of any problems or potential problems encountered during the reporting period; and,

    e. projected work for the next reporting period.

10. The Permittee shall prepare and submit to the Department an Interim Measures (IM) Report on the completion of the Interim Measures conducted under this Part. This report shall be submitted within the timeframe established in the letter from the Department that calls for the IM Report (Appendix D). The IM Report shall contain the following information at a minimum:

    a. a description of interim measures implemented;

    b. summaries of results, including as-builts;

    c. summaries of all problems encountered;

    d. summaries of accomplishments and/or effectiveness of interim measures; and,

    e. copies of all relevant laboratory/monitoring data, *etc*.

11. The Permittee may initiate IM at a SWMU or AOC by submitting the appropriate notification pursuant to Specific Condition Part I.22. The Department will process Permittee-initiated IM by either conditionally approving the IM or imposing an IM Work Plan per Specific Condition 1 of this Part. Permittee-initiated IM shall be considered conditionally approved unless the Department specifically imposes an IM Work Plan within thirty (30) calendar days of receipt of notification of the Permittee-initiated IM. The scope and success of Permittee-initiated IM conditionally approved per Specific Condition 11 of this Part (in other words, **this** Specific Condition) shall be subject to subsequent in-depth review; the Department will either comment on or approve the Permittee-initiated IM. Permittee-initiated IM must follow the progress and final reporting requirements in Specific Conditions 9 and 10 of this Part.

HSWA PART V – CORRECTIVE MEASURES STUDY (CMS)

1. The Permittee shall prepare and submit a CMS Work Plan or ADP for those units requiring a CMS in accordance with the latest **Corrective Action Management Plan** (**CAMP**) approved by the Department, within the time established in a letter from the Department, or within one hundred-eighty (180) days of notification by the Department that a CMS is required, if not addressed in the **CAMP**. This CMS Work Plan shall be developed to meet the requirements of Specific Condition 2 of this Part. The Permittee may seek approval from the Department for concurrent RFI/CMS. The CMS may be performed concurrent with the RFI process if the Department determines that sufficient investigative details are available to allow concurrent action.

2. The CMS Work Plan shall meet the requirements of Appendix C at a minimum. The CMS Work Plan shall include schedules for implementation and completion of specific actions necessary to complete a CMS. The Permittee must provide sufficient justification and/or documentation for any unit deleted from the CMS Work Plan. Such deletion of a unit is subject to the approval of the Department. The CMS shall be conducted in accordance with the approved CMS Work Plan. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix C. Such omissions or deviations are subject to the approval of the Department. The scope of the CMS Work Plan shall include all investigations necessary to ensure compliance with Chapter 62-730, F.A.C., 40 CFR 264.101, 40 CFR 264.552, and 40 CFR 270.32(b)(2). The Permittee shall implement corrective actions beyond the facility boundary, as set forth in Specific Condition HSWA Part I.1.f.

3. The Department shall either approve or disapprove, in writing, at a Team meeting, or telephone conference the CMS Work Plan. This approval may be made in e-mails, by formal letters, or other alternate reporting or approval processes, as authorized by the Department. However, the Permittee(s) is free to proceed at its own risk with the actions outlined in the work plan(s) if it has not received a response from FDEP within 45 days of receipt of the work plan(s) by FDEP. However, any such action would be at the Permittee's own risk, with the understanding that if the voluntary action does not meet the requirements of the permit, the Permittee is obligated to correct the situation. If the Department disapproves the CMS Work Plan, the Department shall either

    a. notify the Permittee in writing of the CMS Work Plan's deficiencies and specify a due date for submittal of a revised CMS Work Plan;

    b. revise the CMS Work Plan and notify the Permittee of the revisions; or

    c. conditionally approve the CMS Work Plan and notify the Permittee of the conditions.

    This revised CMS Work Plan becomes the approved CMS Work Plan. Any disapproval and subsequent revision of a CMS Work Plan or any requirement for additional evaluation under this paragraph shall be subject to HSWA Part IX.

4. The Permittee shall begin to implement the CMS according to the schedules specified in the CMS Work Plan. Pursuant to Specific Condition 2 of this Part, the CMS shall be conducted in accordance with the approved CMS Work Plan.

5. The Permittee shall prepare and submit to the Department a draft and final CMS Report for the study conducted pursuant to the approved CMS Work Plan and in accordance with Appendix C. The draft CMS Report shall be submitted to the Department in accordance with the schedule in the approved CMS Work Plan. The final CMS Report shall be submitted to the Department within sixty (60) calendar days of receipt of the Department's final comments on the draft CMS Report (Appendix D). The CMS Report shall summarize any bench-scale or pilot tests conducted. The CMS Report must include an evaluation of each remedial alternative. If a remedial alternative requires the use of a Corrective Action Management Unit (CAMU), the CMS report shall include all information necessary to establish and implement the CAMU. The CMS Report shall present all information gathered under the approved CMS Work Plan. The CMS Final Report must contain adequate information to support the Department's decision on the recommended remedy, described under HSWA Part VI.

6. If the Department determines that the CMS Final Report does not fully satisfy the information requirements specified under Permit Condition 5 of this Part, the Department may disapprove the CMS Final Report. If the Department disapproves the CMS Final Report, the Department shall notify the Permittee in writing of deficiencies in the CMS Final Report and specify a due date for submittal of a revised CMS Final Report. The Department will notify the Permittee of any no further action decision. Any disapproval and subsequent revision of a CMS Report or any requirement for additional evaluation under this paragraph shall be subject to HSWA Part IX.

7. As specified under Specific Condition 6 of this Part, based on preliminary results and the CMS Final Report, the Department may require that the Permittee evaluate additional remedies or particular elements of one or more proposed remedies.

HSWA PART VI – REMEDY APPROVAL AND PERMIT MODIFICATION

1. A remedy shall be selected from the remedial alternatives evaluated in the CMS. It will be based at a minimum on protection of human health and the environment, as per specific site conditions and existing regulations. The selected remedy may include any IM implemented to date.

2. Upon the Department's intent to approve the recommendation for a Remedy or Remedies (Specific Condition 1 of this Part), the Permittee shall publish notice of the draft Statement(s) of Basis and permit modification(s) to select the remedy or remedies in accordance with Rule 62-730.220(9)(c), F.A.C. This modification will serve to incorporate a Final Remedy (or Remedies), including a CAMU if necessary, into this permit.
3. The Permittee shall implement the Remedy or Remedies, including Land Use Controls, described in the Statement of Basis. With Department approval, the Permittee may modify these Remedies as long as the modifications continue to ensure integrity and protectiveness of the Remedy selected as specified by the Department.

4. With respect to Land Use Controls, the Statement of Basis shall include:
   a. identification of the objective(s) of the land use control,

b. those actions required to achieve each identified objective, including but not limited to, restricting public access to an area for recreational use,

c. actions required to maintain the LUC,

d. how each LUC will be monitored to ensure its continuing protectiveness,

e. the frequency of reporting on the integrity and protectiveness of the LUC under the standards outlined in the Statement of Basis,

f. the entity(ies) responsible for implementing, maintaining, monitoring and enforcing the LUC; and,

g. a commitment for reporting to FDEP and taking prompt corrective action in the event of a breach.

HSWA PART VII – MODIFICATION OF THE CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

1. If at any time the Department or the Permittee determines that modification of the Corrective Action Schedule of Compliance is necessary, the permit may be modified to reflect the change(s) to the Schedule of Compliance (Appendix D).

2. Modifications that are initiated and finalized by the Department will be in accordance with the applicable provisions of Chapter 62-730, F.A.C. The Permittee may also request a permit modification in accordance with Rule 62-730.290(3), F.A.C., to change the Schedule of Compliance.

3. The schedule in the CAMP takes precedence over the Schedule of Compliance provided in Appendix D. If at any time the Department determines that a requested update of the CAMP is appropriate, the CAMP schedule shall be updated to reflect the approved changes. Once the Department has approved the update, the updated CAMP schedule shall take precedent over the previous CAMP schedule and the Schedule of Compliance provided in Appendix D.

HSWA PART VIII – WORK PLAN AND REPORT REQUIREMENTS

1. All work plans, ADPs, and schedules shall be subject to approval by the Department prior to implementation to assure that such work plans and schedules are consistent with the requirements of this Permit and with applicable regulations. This approval may be made in emails, by formal letters, or other alternate reporting or approval processes, as authorized by the Department. The Permittee shall revise all submittals and schedules as specified by the Department. Upon approval the Permittee shall implement all work plans and schedules as written. However, the Permittee(s) is free to proceed at its own risk with the actions outlined in the work plan(s) if it has not received a response from FDEP within 45 days of receipt of the work plan(s) by the Department. However, any such action would be at the Permittee's own risk, with the understanding that if the voluntary action does not meet the requirements of the permit, the Permittee is obligated to correct the situation.

2. All work plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Department based on the Permittee's demonstration that sufficient justification for the extension exists.

3. If the Department or the Permittee at any time determines that the SAR information required under HSWA Part I, the CS Work Plan under HSWA Part II, or RFI Work Plan(s) required under HSWA Part III no longer satisfy the requirements of 40 CFR 264.101 or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units (SWMU) and/or areas of concern (AOC), the Permittee shall submit an amended Work Plan(s) to the Department within ninety (90) calendar days of receiving written notification such determination.

4. If the Permittee submits any document to the Department required under this permit for which review and/or approval is necessary and required before the Permittee may proceed under this permit, any and all time necessary for the Department to undertake a thorough and adequate review and/or approval of that document required under this permit will not be counted against the Permittee for future milestone dates in accordance with the latest CAMP approved by the Department.

HSWA PART IX – APPROVAL/DISAPPROVAL OF SUBMITTALS

1. The Department will review the work plans, reports, schedules, and other documents ("submittals") which require the Department's approval in accordance with the conditions of this permit. The Department will notify the Permittee in writing of any submittal that is disapproved, and the basis therefore.

HSWA PART X – DISPUTE RESOLUTION

1. Any dispute resolution will be conducted in accordance with Chapter 120, F.S. (**Administrative Procedures Act**) and the Department's existing Rules and Procedures. Alternatively, disputes are resolved following a tiered approach with Tier I being staff members, Tier II supervisors, etc.

HSWA PART XI – LAND DISPOSAL RESTRICTIONS

1. 40 CFR Part 268 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage or disposal unit. The Permittee shall maintain compliance with the requirements of 40 CFR Part 268. Where the Permittee has applied for an extension, waiver or variance under 40 CFR Part 268, the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending final approval of such application.

2. A restricted waste identified in 40 CFR Part 268 Subpart C may not be placed in a land disposal unit without further treatment unless the requirements of 40 CFR Part 268 Subparts C and/or D are met.

3. The storage of hazardous wastes restricted from land disposal under 40 CFR Part 268 is prohibited unless the requirements of 40 CFR Part 268 Subpart E are met.

HSWA PART XII – LONG TERM MONITORING PROGRAMS

1. The Permittee shall implement the long term monitoring (LTM) plans approved by the Cape/Patrick team and described in the attached CD containing the Statement of Basis in HSWA Part XIV. With Department approval, the Permittee may modify the monitoring well network or required parameters to be monitored at each well based on analytical or hydrogeological data, as long as the modifications continue to provide the information necessary to meet the groundwater monitoring requirements specified by the Department.

HSWA PART XIII – DEFINITIONS

1. For purposes of this permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264, and 270, unless this permit specifically provides otherwise. Where terms are not defined in the regulation, the permit, or EPA guidelines or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

    a. “Action Levels” for the purposes of this permit are the Department’s health-based concentrations of hazardous constituents determined to be indicators for the protection of human health and/or the environment.

    b. The term "area of concern" (AOC) for purposes of this permit includes any area having a probable release of a hazardous waste or hazardous constituent which is not from a solid waste management unit and is determined by the Department to pose a current or potential threat to human health or the environment. Such areas of concern may require investigations and remedial action as required under RCRA Section 3005(c)(3) and 40 CFR 270.32(b)(2) in order to ensure adequate protection of human health and the environment.

    c. "Corrective Action Management Unit" (CAMU) means an area within a facility that is used only for managing remediation wastes for implementing corrective action or cleanup at the facility (40 CFR Part 264 Subpart S).

    d. "Corrective measures" for purposes of this permit, include all corrective action necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit, as required under 40 CFR 264.101. Corrective measures may address releases to air, soils, surface water or groundwater.

    e. "Extent of contamination" for the purposes of this permit is defined as the horizontal and vertical area in which the concentrations of hazardous constituents in the environmental media being investigated are above detection limits or background concentrations indicative of the region, whichever is appropriate as determined by the Department.

    f. Facility” for the purposes of this permit includes all contiguous and other land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of

hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combination of them). For the purposes of implementing corrective action under 264.101, a facility includes all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA).

g. A "hazardous constituent" for purposes of this permit are those substances listed in 40 CFR Part 261 Appendix VIII and Part 264 Appendix IX.

h. "Interim Measures" (IM) for purposes of this permit are actions necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented.

i. “Land Disposal” for purposes of this permit and 40 CFR Part 268 means placement in or on the land except for a CAMU or staging pile and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, underground mine or cave, or concrete vault or bunker intended for disposal purposes.

j. A “release” for purposes of this permit includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.

k. “Remediation waste” for the purposes of this permit includes all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing cleanup.

l. “Corrective Action Management Plan (CAMP)” for the purposes of this permit is a schedule outlining due dates for submittal of work plans or reports.

m. “Solid waste” means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat.880), or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat.923).

n. A "solid waste management unit" (SWMU) for the purposes of this permit includes any unit which has been used for the treatment, storage, or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for the management of solid waste. RCRA regulated hazardous waste management units are also solid waste management units. SWMUs include areas that have been contaminated by routine and systematic releases of hazardous waste or hazardous constituents, excluding one-time accidental spills that are

immediately remediated and cannot be linked to solid waste management activities (*e.g.*, product or process spills).

o. A "Temporary Unit" (TU) for the purposes of this permit includes any temporary tanks and/or container storage areas used solely for treatment or storage of hazardous remediation wastes during specific remediation activities. Designated by the Department, such units must conform to specific standards, and may only be in operation for a period of time as specified in this permit.

p. A "unit" for the purposes of this permit includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank, container storage area, septic tank, drain field, wastewater treatment unit, elementary neutralization unit, transfer station, or recycling unit.

q. "Land Use Control" (LUC) for the purposes of this permit shall include, but not be limited to, any restriction or control, arising from the need to protect human health and the environment that limits use of or exposure to any portion of that property, including water resources. For the purposes of this permit, the term “land use controls” encompasses and is used interchangeabley with the term "institutional controls." Land use controls can include engineering controls, such as fences, or nonengineered controls. Nonengineered controls include estate interests, governmental permitting, zoning, public advisories, and deed notices. Considered altogether, the "LUCs” for a facility, in conjunction with the base master plan, will provide a blueprint for how its property shall be used in order to enforce the level of protectiveness which one or more remedial/corrective actions were designed to achieve.

HSWA PART XIV– FINAL REMEDY FOR CAPE CANAVERAL AIR FORCE STATION’S SWMUS

1. Final Remedy selection for Cape Canaveral Air Force Station’s SWMU’s are listed below and in external documents containing the Statements of Basis approved by the Department. Additional components of the chosen remedy are listed below.

List of SWMUs with Selected Remedies

SOILS ACCESS RESTRICTIONS. GROUNDWATER TO BE INVESTIGATED UNDER HANGAR K PLUME.
SWMU 6 (Facility 1798)
SWMU 28 (Waste Etchant Underground Tank)
SWMU 48 (Hangar U)
SWMU 76 (Hangar M)

MONITORED NATURAL ATTENUATION WITH INSTITUTIONAL CONTROLS PROHIBITING GROUNDWATER ACCESS.
SWMU 32 (Fire Training Area 1)
SWMU 36 (Space Launch Complex 11)
SWMU 37 (Space Launch Complex 12)
SWMU 41 (Space Launch Complex 18)
SWMU 52 (Testing Area 55)

INSTITUTIONAL CONTROLS RESTRICTING ACCESS TO SOILS

SWMU 43 (Space Launch Complex 20)
SWMU 47 (Space Launch Complex 41)
SWMU 49 (Heavy Equipment Shop)

INSTITUTIONAL CONTROLS RESTRICTING ACCESS TO SOILS AND GROUNDWATER WITH MONITORED NATURAL ATTENUATION OF GROUNDWATER.

SWMU 20 (Instrument Testing Laboratory)
SWMU 25 (Landfill 1)
SWMU 42 (Space Launch Complex 19)
SWMU 46 (Space Launch Complex 40)
SWMU 88 (Fire Fighting Station)

SITES WITH ACTIVE REMEDIES.

SWMU 30 (Space Launch Complex 15)
SWMU 40 (Space Launch Complex 16)

Every year the Permittee will prepare a review of the remedy effectiveness and submit the report to the Department. The Permittee may at any time present additional information for remedy modification, including but not limited to discontinuing the remedy.

The 45th Space Wing, Civil Engineering Squadron, Environmental Flight is responsible for implementing, monitoring, maintaining, reporting upon and enforcing the remedies under this permit, including Land Use Controls.

HSWA PART XV – CORRECTIVE MEASURES IMPLEMENTATION (CMI)

1. For SWMUs with selected remedies requiring a detailed design, the Permittee shall submit a CMI document and accompanying drawings to the Department within one hundred and eighty (180) days of the effective date of the permit modification for remedy selection or within the time frame established by the permit modification for remedy selection. The Department will either approve, request revisions, or conditionally approve the CMI and notify the Permittee of the conditions. The final CMI shall be submitted to the Department within sixty (60) days of receipt of the Department's comments on the draft CMI.

2. Upon notification by the Department, the Permittee shall prepare and submit a CMI Work Plan for any SWMU or AOC which the Department determines warrants a CMI Work Plan. The CMI Work Plan shall be submitted within one hundred and eighty (180) days of the effective date of the permit modification for remedy selection or the date the Permittee receives approval of the CMI from the Department or within the time frame established by the permit modification for remedy selection. This work plan shall include a proposed schedule for implementation of corrective measures.

3. Where Land Use Controls comprise part of the final remedy at a SWMU or AOC, the Permittee shall prepare and submit a Land Use Control Implementation Plan (LUCIP) as part of, appended to, or in lieu of a CMI Work Plan. The permit provisions that apply to the CMI Work Plan apply to any such LUCIP. The LUCIP would provide detail and specific measures required for the Land Use Controls

selected, including establishing, implementing, monitoring, maintaining, reporting, and enforcing requirements for the unit.

4. The CMI Work Plan must be approved by the Department prior to implementation. The Department shall specify the start date of the CMI in the letter approving the Work Plan. If the Department disapproves the CMI Work Plan, the Department shall either (1) notify the Permittee in writing of the CMI Work Plan's deficiencies and specify a due date for submission of a revised CMI Work Plan, (2) revise the CMI Work Plan and notify the Permittee of the revisions and the start date of the schedule, or (3) conditionally approve the CMI Work Plan and notify the Permittee of the conditions.

5. Within ninety (90) days of completion of the corrective measures activities. The CMI Report shall demonstrate compliance with all media cleanup levels or goals. For long-term corrective measures activities in which the corrective action system must operate for an indefinite period of time prior to achieving cleanup goals/levels, the CMI Report and certification must document that the corrective action system is constructed in accordance with the approved CMI and is operational and functional, must outline any Operation and Maintenance (O&M) necessary, and must document that the system is in compliance with all applicable federal, State, and local regulations. The Department will either approve the Report or request revisions. The final CMI Report shall be submitted to the Department within sixty (60) days of receipt of the Department's comments on the draft CMI Report. Approval of the final CMI report constitutes remedy completion, or construction completion for long-term corrective measures.

6. For corrective measures involving the cleanup of groundwater, the Permittee must demonstrate that the concentration of constituents of concern remain below cleanup goals or at asymptotic levels (through scientifically defensible data including, but not limited to: raw data analysis, trend analysis, statistical analysis), for a maximum of three (3) consecutive years after the corrective measures have been terminated.

7. If the time required to complete corrective measures implementation is greater than one hundred eighty (180) calendar days, the Permittee shall provide the Department with progress reports at intervals as specified by the Department in the CMI Work Plan approval letter. The progress reports shall, at a minimum, contain the following information:

    a. A description of the portion of the CMI completed;

    b. Summaries of compliance with and progress toward achieving cleanup goals;

    c. Summaries of any deviations from the approved CMI work plan during the reporting period;

    d. Summaries of current and potential problems including recommended solutions and alternatives as well as corrective actions undertaken;

    e. Projected work and impacts to approved schedule.

Appendix A

Solid Waste Management Unit Summary

A.1. List of solid waste management units (SWMUs) and areas of concern (AOCs) requiring a RCRA Facility Investigation (RFI):	
SWMU/AOC No/Letter	SWMU/AOC Name
	Attachment 7 is a list of the SWMUs and AOCs.

A.2. List of solid waste management units (SWMUs) and areas of concern (AOCs) granted a No Further Action:	
SWMU/AOC No/Letter	SWMU/AOC Name
	Attachment 7 is a list of the SWMUs and AOCs.

A.3. List of solid waste management units (SWMUs) and areas of concern (AOCs) requiring a RCRA Confirmatory Sampling (CS):	
SWMU/AOC No/Letter	SWMU/AOC Name
	Attachment 7 is a list of the SWMUs and AOCs.

A.4. List of solid waste management units (SWMUs) and areas of concern (AOCs) undergoing a Remedial Action:	
SWMU/AOC No/Letter	SWMU/AOC Name
	AS DETAILED IN REFERENCE DOCUMENT 2, 45th Space Wing Installation Restoration Program, Statement of Basis and LUCIPS dated November 15, 2001.Land Use Controls and LTM requirements are described in the CD as well. Attachment **7** is a list of the SWMUs and AOCs.

Appendix B

RCRA Facility Investigation (RFI) Outline

The purpose of the RFI portion of the RCRA corrective action process is to evaluate the nature and extent of releases of hazardous wastes and/or hazardous constituents and to gather necessary data to support the CMS and/or IM. Planning for the investigation is best accomplished through a logical progression of tasks:

1. gather information on the source of the release(s) to the environment (Source Characterization),

2. gather information on the physical aspects of the environment which will affect the migration and fate of the release and identification of exposure pathways for both humans and non-human members of the environment (Environmental Setting),

3. use Source Characterization and Environmental Setting to develop a conceptual model of the release which will be used to plan and conduct a program to define the nature, rate and extent of the release (Sampling and Analysis Plan).

An RFI Work Plan and RFI Report are generally required elements of the RCRA corrective action process. The requirements for a full, detailed RFI are listed in this Appendix. The Department recognizes that each facility is unique. Therefore, the scope and requirements of the RFI shall be focused to fit the complexity of the site-specific situation. The work plan requirements listed in this Appendix in no way limit the site-specific opportunities for a Permittee. For example, the RFI may be implemented in phases. Relevant information contained in previously developed documents, such as a RCRA Part B permit application, may be referenced as appropriate, but must be summarized in either the RFI Work Plan or the RFI Report. In addition, the Department understands that Risk Assessments are becoming more widely utilized to place characterization information into context and to aid in determining remedial solutions. If a Risk Assessment is expected to be performed in the future, the Permittee and the contractor should meet with the Department to discuss the general format and process the Department expects a Risk Assessment to follow.

In some cases, it may be possible to implement the RFI concurrent with the CMS (also see Appendix C). This approach can save time and money because the earlier in the corrective action process potential remedies can be identified, the more effectively information gathering can be focused. The Department anticipates that a concurrent RFI/CMS approach may be appropriate in the following types of situations, among others: facilities where removal remedies have been proposed by the owner/operator, facilities with straightforward remedial solutions or where presumptive remedies can be applied, facilities where few remedial options are available, and facilities where the remedy is phased. The Department will determine on a case-by-case basis if a concurrent RFI/CMS is appropriate. Because of the unique data collection requirements necessary for a remedial solution which includes natural attenuation of contaminants in groundwater, if natural attenuation is expected to be part of the remedial solution, then the Sampling and Analysis Plan should be crafted to include monitoring of specific water quality parameters unique to natural attenuation (*e.g.*, nitrites/nitrates, ferrous iron, sulfides, dissolved oxygen, methane, hydrogen, *etc.*).

I. RFI WORK PLAN REQUIREMENTS - ELEMENTS OF THE RFI WORK PLAN

The RFI Work Plan shall include, at a minimum, the following elements:

A. Introduction - Summary of any relevant existing assessment data

The Permittee shall describe the purpose or objective of the RFI Work Plan and provide a summary of any existing environmental data, which is relevant to the investigation. The summary should provide the following items, at a minimum:

1. land ownership history;

2. facility operating dates;

3. facility's product(s);

4. raw materials used in facility operations, wastes generated;

5. nature and extent of any known contamination;

6. summary of an ongoing IM and past assessments; and,

7. summary of permit objective and how this objective will be satisfied.

B. Environmental Setting

The Permittee shall provide information on the environmental setting at the facility. The Permittee shall characterize the Environmental Setting as it relates to identified sources, pathways and areas of releases of hazardous constituents from Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs). Data gaps pertinent to characterization of releases shall be identified and provisions made in Section E to obtain the relevant information to fill the data gap. The Environmental Setting shall cover the following items, at a minimum:

1. Hydrogeology

   The Permittee shall provide a summary of the hydrogeologic conditions at the facility. This discussion shall include, but not be limited to, the following information:

   a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:

      (1). Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;

      (2). Structural geology: description of local and regional structural features (*e.g.*, folding, faulting, tilting, jointing, metamorphic foliation, *etc*.);

(3). Depositional history;

(4). Regional and facility specific groundwater flow patterns (porous media, fracture media, karst media); and,

(5). Identification and characterization of areas and amounts of recharge and discharge (springs in karst terrane, base level streams and rivers).

b. An analysis of any topographic features that might influence the groundwater flow system (*e.g.*, sinkholes and sinking streams in karst terranes).

c. Based on any existing field data, tests (*e.g.*, pump tests, tracer tests), and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (*i.e.*, the aquifers and any intervening saturated and unsaturated units), including:

(1). Hydraulic conductivity and porosity (total and effective), groundwater flow velocity, groundwater basin discharge;

(2). Lithology, grain size, sorting, degree of cementation;

(3). An interpretation of hydraulic interconnections between saturated zones (*i.e.*, aquifers) and surface waters; and

(4). The attenuation capacity and mechanisms of the natural earth materials (*e.g.*, ion exchange capacity, organic carbon content, mineral content, *etc*.).

d. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient, water wells and/or springs downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:

(1). Water-level contour and/or potentiometric maps, including seasonal variations;

(2). Hydrologic cross sections showing vertical gradients;

(3). The flow system, including the vertical and horizontal components of flow; and,

(4). Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences and for karst terrane, stormflow.

e. A description of man-made influences that may affect the hydrology of the site, identifying:

(1). Local water supply and production wells with an approximate schedule of pumping; and;

(2). Man-made hydraulic structures (pipelines, french drains, ditches, roofs, runways, parking lots, *etc*.).

2. Soils

The Permittee shall provide an explanation of the soil and rock units above the water table in the vicinity of contaminant release(s). This summary may include, but not be limited to, the following types of information as appropriate:

a. Surface soil distribution;

b. Soil profile, including ASTM classification of soils;

c. Transects of soil stratigraphy;

d. Hydraulic conductivity (saturated and unsaturated);

e. Relative permeability;

f. Bulk density;

g. Porosity;

h. Soil sorption capacity;

i. Cation exchange capacity (CEC);

j. Soil organic content;

k. Soil pH;

l. Particle size distribution;

m. Depth of water table;

n. Moisture content;

o. Effect of stratification on unsaturated flow;

p. Infiltration;

q. Evapotranspiration;

r. Storage capacity;

s. Vertical flow rate; and,

t. Mineral content.

3. Surface Water and Sediment

The Permittee shall provide a description of the surface water bodies in the vicinity of the facility. This summary may include, but not be limited to, the following activities and information:

a. Description of the temporal and permanent surface water bodies including:

(1). For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

(2). For impoundments: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;

(3). For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (*i.e.*,, 100 year event), discharge point(s), and general contents;

(4). Drainage patterns; and;

(5). Evapotranspiration.

b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients, chemical oxygen demand, total organic carbon, specific contaminant concentrations, *etc*.

c. Description of sediment characteristics including:

(1). Deposition area;

(2). Thickness profile; and,

(3). Physical and chemical parameters (*e.g.*, grain size, density, organic carbon content, ion exchange capacity, pH, *etc*.).

4. Air

The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

a. A description of the following parameters:

(1). Annual and monthly rainfall averages;

(2). Monthly temperature averages and extremes;

(3). Wind speed and direction;

(4). Relative humidity/dew point;

(5). Atmospheric pressure;

(6). Evaporation data;

(7). Development of inversions; and,

(8). Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence (*i.e.*, Hurricanes)

b. A description of topographic and man-made features which affect air flow and emission patterns, including:

(1). Ridges, hills or mountain areas;

(2). Canyons or valleys;

(3). Surface water bodies (*e.g.*, rivers, lakes, bays, *etc*.); and,

(4). Buildings.

C. Source Characterization

For those sources from which releases of hazardous constituents have been detected, the Permittee shall provide analytical data to completely characterize the wastes and the areas where wastes have been placed, to the degree that is possible without undue safety risks, including: type, quantity; physical form; disposition (containment or nature of deposits); and facility characteristics affecting release (*e.g.,* facility security, and engineering barriers). Data gaps on source characterization shall be identified and provisions made in Section E to obtain the relevant information to fill the data gap. This summary shall include quantification of the following specific characteristics, at each source area:

1. Unit/Disposal Area Characteristics:

a. Location of unit/disposal area;

b. Type of unit/disposal area;

c. Design features;

d. Operating practices (past and present)

e. Period of operation;

f. Age of unit/disposal area;

g. General physical conditions; and,

h. Method used to close the unit/disposal area.

2. Waste Characteristics:

a. Type of wastes placed in the unit;

(1). Hazardous classification (*e. g*., flammable, reactive, corrosive, oxidizing or reducing agent);

(2). Quantity; and,

(3). Chemical composition.

b. Physical and chemical characteristics such as:

(1). Physical form (solid, liquid, gas);

(2). Physical description (*e.g.*, powder, oily sludge);

(3). Temperature;

(4). pH;

(5). General chemical class (*e.g.*, acid, base, solvent);

(6). Molecular weight;

(7). Density;

(8). Boiling point;

(9). Viscosity;

(10). Solubility in water;

(11). Cohesiveness of the waste; and,

(12). Vapor pressure.

c. Migration and dispersal characteristics of the waste such as:

(1). Sorption capability;

(2). Biodegradability, bioconcentration, and biotransformation;

(3). Photodegradation rates;

(4). Hydrolysis rates; and,

(5). Chemical transformations.

D. Potential Receptors

The Permittee shall provide data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Data gaps pertinent to receptor analysis shall be identified and provisions made in Section E to obtain the relevant information to fill the data gap. The following characteristics shall be identified at a minimum:

1. Current local uses and planned future uses of groundwater:

   a. Type of use (*e.g.*, drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial);

   b. Location of groundwater users, to include withdrawal and discharge wells and springs, within one mile of the impacted area.

   The above information should also indicate the aquifer or hydrogeologic unit used and/or impacted for each item.

2. Current local uses and planned future uses of surface waters directly impacted by the facility:

   a. Domestic and municipal (*e.g.*, potable and lawn/gardening watering);

   b. Recreational (*e.g.*, swimming, fishing);

   c. Agricultural;

d. Industrial; and,

e. Environmental (*e.g.*, fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to:

a. Recreation;

b. Hunting;

c. Residential;

d. Commercial; and,

e. Relationship between population locations and prevailing wind direction.

4. A general description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A general description of the ecology within the area adjacent to the facility.

6. A general demographic profile of the people who use have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any known or documented endangered or threatened species near the facility.

E. Sampling and Analysis Plan(s) for Characterization of Releases of Hazardous Waste/Hazardous Constituents

The Permittee shall prepare a plan to document all monitoring procedures necessary to characterize the extent, fate and transport of releases (*i.e.*, identify sample locations, sample procedures and sample analysis to be performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented). The sampling strategy and procedures shall be in accordance with EPA Region 4 Environmental Compliance Branch's **Standard Operating Procedure and Quality Assurance Manual** (SOP) (most recent version) or a Department-approved QAPP pursuant to Chapter 62-160, F.A.C. Any deviations from this reference must be requested by the applicant and approved by the Department. If a Risk Assessment is expected to be performed once release characterization is complete or nearly complete, Data Quality Objectives (DQO) for a Human Health Risk Assessment requires a Data Quality Objective of Level 3 or greater.

The Sampling and Analysis Plan must specifically discuss the following unless the SOP procedures are specifically referenced.

1. Sampling Strategy

   a. Selecting appropriate sampling locations, depths, *etc*.;

   b. Obtaining all necessary ancillary data;

   c. Determining conditions under which sampling should be conducted;

   d. Determining which media are to be sampled (*e.g.*, groundwater, air, soil, sediment, subsurface gas);

   e. Determining which parameters are to be measured and where;

   f. Selecting the frequency of sampling and length of sampling period;

   g. Selecting the types of samples (*e.g.*, composite *vs*. grab) and number of samples to be collected.

2. Sampling Procedures

   a. Documenting field sampling operations and procedures, including;

      (1). Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (*e.g.*, filters, preservatives, and absorbing reagents);

      (2). Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

      (3). Documentation of specific sample preservation method;

      (4). Calibration of field instruments;

      (5). Submission of appropriate blanks (*e.g.*, field, equipment, trip, *etc*.);

      (6). Potential interferences present at the facility;

      (7). Construction materials and techniques, associated with monitoring wells and piezometers;

      (8). Field equipment listing and sampling containers;

      (9). Sampling order; and,

      (10). Decontamination procedures.

b. Selecting appropriate sample containers;

c. Sampling preservation; and,

d. Chain-of-custody, including:

(1). Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and,
(2). Pre-prepared sample labels containing all information necessary for effective sample tracking.

(3). Chain-of-custody seals for sample containers and shipping coolers.

3. Sample Analysis

Sample analysis shall be conducted in accordance with **SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods** (most recent version) or an alternate approved method. The sample analysis section of the Sampling and Analysis Plan shall specify the following:

a. Chain-of-custody procedures, including:

(1). Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

(2). Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

(3). Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

b. Sample storage (*e.g.*, maximum holding times for constituents);

c. Sample preparation methods;

d. Analytical Procedures, including:

(1). Scope and application of the procedure;

(2). Sample matrix;

(3). Potential interferences;

(4). Precision and accuracy of the methodology; and

(5). Method Detection Limits; and,

(6). Practical Quantitative Limits

e. Calibration procedures and frequency;

f. Data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and systems audits and frequency, including:

(1). Method blank(s);

(2). Laboratory control sample(s);

(3). Calibration check sample(s);

(4). Replicate sample(s);

(5). Matrix-spiked sample(s);

(6). "Blind" quality control sample(s);

(7). Control charts;

(8). Surrogate samples;

(9). Zero and span gases; and,

(10). Reagent quality control checks.

h. External quality control checks by the Department, including:

(1). Spikes and blanks at sampling events for which the Department or its technical representative provides oversight; and,

(2). The equivalent of a CLP data package for samples split with the Department or for which the Department specifically requests the package.

i. Preventive maintenance procedures and schedules;

j. Corrective action (for laboratory problems); and

k. Turnaround time.

F. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

   The data record shall include the following:

   a. Unique sample or field measurement code;

   b. Sampling or field measurement location and sample or measurement type;

   c. Sampling or field measurement raw data;

   d. Laboratory analysis ID number;

   e. Property or component measures; and

   f. Result of analysis (*e.g*,. concentration, data qualifiers).

2. Tabular Displays

   The following data shall be presented in tabular displays:

   a. Unsorted (raw) data;

   b. Results for each medium, or for each constituent monitored;

   c. Data reduction for statistical analysis, as appropriate;

   d. Sorting of data by potential stratification factors (*e.g.*, location, soil layer, topography); and,

   e. Summary data

3. Graphical Displays

   The following data shall be presented in graphical formats (*e.g.*, bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, *etc*.):

   a. Display sampling location and sampling grid;

b. Indicate boundaries of sampling area, and area where more data are required;

c. Display geographical extent of contamination, both horizontally and vertically;

d. Illustrate changes in concentration in relation to distances from the source, time, depth or other parameters; and,

e. Indicate features affecting inter-media transport and show potential receptors.

G. Project Management Plan - Schedule of Implementation

The Permittee shall prepare a Project Management Plan that will cover qualifications of personnel categories and the management control structure for the project. The Permittee shall also provide a schedule for completing the planned RFI activities. The schedule shall be as specific as possible (*i.e.*, it should indicate the number of days/weeks/months required for each major work plan task).

II. RFI REPORT REQUIREMENTS - ELEMENTS OF THE RFI REPORT

The RFI Report shall include, at a minimum, the following elements:

A. Introduction

The Permittee shall describe the purpose of the RFI Work Plan and provide a summary description of the project.

B. Environmental Setting

The Permittee shall describe the Environmental Setting in and around the facility. The RFI Work Plan should contain some, if not all, of the information on the Environmental Setting. Any information collected during work plan implementation that clarifies or improves understanding of the Environmental Setting should be provided in this section.

C. Source Characterization

The Permittee shall summarize the sources of contamination and nature of releases identified at the facility. The RCRA Facility Assessment and the RFI Work Plan should contain some, if not all, of the information on Source Characterization. Any information collected during work plan implementation or obtained from the sources (*e.g.*, voluntarily or from other Environmental Programs) that directly addresses Source Characterization shall be provided in this section.

D. Sampling and Analysis Results

The Permittee shall present data results obtained pursuant to the RFI Work Plan. The Permittee shall identify any work plan proposals that were not completed and explain why such actions were not finished. The Permittee shall also present its analysis/interpretation of how the sampling data meet the RFI objective and how the sampling data fits or modifies the contaminant conceptual model. For all analytical data, the Permittee shall discuss the results of data quality/data review.

E. Data Quality Assurance/Data Quality Data Review

The Permittee shall perform a Quality Assurance/Quality Control data review on all data present in the RFI. The Quality Assurance/Quality Control data review shall be in accordance with the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA-540/R94-013) and the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA-540/R94-012), unless the Permittee has a Department-approved QAPP. The data review shall address the following, at minimum:

1. Holding times;
2. Blanks;
3. Laboratory Control Samples;
4. Field Duplicates;
5. Surrogate Recoveries;
6. Matrix Spike/Matrix Spike Duplicates; and,
7. Data Assessment - Data Usability.

F. Conclusions

The Permittee shall summarize the major conclusions reached after analysis of the environmental setting, source characterization, sampling and analysis results and data quality. Any data gaps needed to complete characterization of the scope and extent of the releases from SWMUs and/or AOCs or to refine further the contaminant conceptual model shall be identified and recommendations made in the Recommendations Section of the report.

G. Recommendations

The Permittee shall provide its recommendations on what, if any, further action is needed to complete the characterization of release(s) from SWMUs and/or AOCs.

H. Work Plan for Additional Investigations

If further investigations are determined to be needed to complete the objective of the RFI then the Permittee shall provide a work plan to complete characterization of the release(s).

Appendix C

Corrective Measures Study (CMS) Outline

The purpose of the CMS portion of the RCRA corrective action process is to identify and evaluate potential remedial alternatives for the releases of hazardous constituents that have been identified at the facility through the RFI or other investigations to need further evaluation. The scope and requirements of the CMS are balanced with the expeditious initiation of remedies and rapid restoration of contaminated media. The scope and requirements of the CMS should be focused to fit the complexity of the site-specific situation. It is anticipated that Permittees with sites with complex environmental problems may need to evaluate a number of technologies and corrective measure alternatives. For other facilities, however, the evaluation of a single corrective measure alternative may be adequate. Therefore, a streamlined or focused approach to the CMS may be initiated. Information gathered during any stabilizations or interim measures will be used to augment the CMS and, in cases where corrective action goals are met, may be a substitute for the final CMS.

Regardless of whether a streamlined/focused or a detailed CMS is required, a CMS Work Plan and CMS Report are generally required elements. The requirements for a full, detailed CMS are listed below. The Department has the flexibility not to require sections of the plan and/or report, where site-specific situations indicate that all requirements are not necessary. Additionally, the Department may require additional studies besides these discussed in order to support the CMS.

I. CMS WORK PLAN

A. Elements of the CMS Work Plan

The CMS Work Plan shall include at a minimum the following elements:

1. A brief site-specific description of the overall purpose of the CMS;

2. A brief description of the corrective measure objectives, including proposed target media cleanup standards (*e.g.*, promulgated Federal and State standards) and preliminary points of compliance or a description of how a risk assessment will be performed (*e.g.*, guidance documents);

3. A brief description of the specific corrective measure technologies and/or corrective measure alternatives which will be studied;

4. A brief description of the general approach to investigating and evaluating potential corrective measures;

5. A detailed description of any proposed pilot, laboratory and/or bench scale studies;

6. A proposed outline for the CMS Report including a description of how information will be presented;

7. A brief description of overall project management including overall approach, levels of authority (include organization chart), lines of communication, project schedules, budget and personnel. Include a description of qualifications for personnel directing or performing the work;

8. A project schedule that specifies all significant steps in the process and when key documents (*e.g.*, CMS Progress Reports, draft CMS Report) are to be submitted to the Department;

9. A detailed Public Involvement Plan.

II. CMS REPORT

The detail of a CMS may vary based upon the complexity of the site, on-going IM, *etc*. However, the CMS Report may include the following elements:

A. Introduction/Purpose

The Permittee shall describe the purpose of the CMS Report and provide a summary description of the project.

B. Description of Current Situation

The Permittee shall submit a summary and an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation (RFI) Report. This discussion should concentrate on those issues that could significantly affect the evaluation and selection of the corrective measures alternative(s). The Permittee shall provide an update to information presented in the RFI regarding previous response activities and interim measures that have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RFI. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

C. Establishment of Proposed Media Specific Cleanup Standards

The Permittee shall describe the proposed media cleanup standards and point of compliance. The cleanup criteria must be either background, promulgated Federal and State standards, State cleanup criteria, or alternate risk-derived target cleanup levels. If media clean-up standards are not proposed, then the Department will unilaterally propose setting media clean-up standards to either background, promulgated Federal and State standards or the most conservative risk-derived standards.

D. Identification, Screening and Development of Corrective Measure Technologies

1. Identification: List and briefly describe potentially applicable technologies for each affected media that may be used to achieve the corrective action objectives. Include a table that summarizes the available technologies.

   The Permittee should consider innovative treatment technologies, especially in situations where there are a limited number of applicable corrective measure technologies.

2. Screening: The Permittee shall screen the corrective measure technologies to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies that have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

   Site, waste, and technology characteristics used to screen inapplicable technologies are described in more detail below:

   a. Site Characteristics: Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.

   b. Waste Characteristics: Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of *in-situ* methods, direct treatment methods, and land disposal (on/off-site).

   c. Technology Limitations: During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

3. Corrective Measure Development: The Permittee shall assemble the technologies that pass the screening step into specific alternatives that have the potential to meet the corrective action objectives for each media. Options for addressing less complex sites could be relatively straightforward and may only require evaluation of a single or limited number of alternatives. Each alternative may consist of an individual technology or a combination used in sequence *(i.e.,* treatment train). Different alternatives may be considered for separate areas of the facility, as appropriate. List and briefly describe each corrective measure alternative.

E. Evaluation of a Final Corrective Measure Alternative

1. For each remedy that warrants a more detailed evaluation (*i.e.*, those that passed through the screening step), including those situations when only one remedy is being proposed, the Permittee shall provide detailed documentation of how the potential remedy will comply with each of the standards listed below. These standards reflect the major technical components of remedies including cleanup of releases, source control and management of wastes that are generated by remedial activities. The specific standards are as follows:

    a. Protect human health and the environment.

    b. Attain media cleanup standards set by the Department.

    c. Control the source of releases to reduce or eliminate, to the extent practicable, further releases that may pose a threat to human health and the environment.

    d. Comply with applicable standards for management of wastes.

    e. Other factors.

2. In evaluating the selected alternative or alternatives, the Permittee shall prepare and submit information that documents that the specific remedy will meet the standards listed above. The following guidance should be used in completing this evaluation.

    a. Protect Human Health and the Environment

    Corrective action remedies must be protective of human health and the environment. Remedies may include those measures that are needed to be protective, but are not directly related to media cleanup, source control or management of wastes. An example would be a requirement to provide alternative drinking water supplies in order to prevent exposures to releases from an aquifer used for drinking water purposes. Therefore, the Permittee shall provide a discussion of any short term remedies necessary to meet this standard, as well as discuss how the corrective measures alternative(s) meet this standard.

    b. Attain Media Cleanup Standards

    Remedies will be required to attain media cleanup standards. As part of the necessary information for satisfying this requirement, the Permittee shall address whether the potential remedy will achieve the remediation objectives. An estimate of the time frame necessary to achieve the goals shall be included. Contingent remedies may be proposed if there is doubt if the initial remedy will be successful (*e.g.*, contingent remedies to innovative technologies).

    c. Control of Sources of Releases

The Permittee shall address the issue of whether source control measures are necessary, and if so, the type of actions that would be appropriate. Any source control measure proposed should include a discussion on how well the method is anticipated to work given the particular situation at the facility and the known track record of the specific technology.

d. Comply With any Applicable Standards for Management of Wastes

The Permittee shall include a discussion of how the specific waste management activities will be conducted in compliance with all applicable State and Federal regulations (*e.g.*, closure requirements, LDRs)

e. Other Factors

There are five general factors that will be considered as appropriate by the Department in selecting/approving a remedy that meets the four standards listed above. These five decision factors include:

- Long-term reliability and effectiveness;
- Reduction in the toxicity, mobility or volume of wastes;
- Short-term effectiveness;
- Implementability; and,
- Cost.

Examples of the type of information to include are provided below:

(1). Long-term reliability and effectiveness: The Permittee may consider whether the technology, or combination of technologies, have been used effectively under analogous site conditions, whether failure of any one technology in the alternative would have any immediate impact on receptors, and whether the alternative would have the flexibility to deal with uncontrollable changes at the site. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. In addition, each corrective measure alternative should be evaluated in terms of the projected useful life of the overall alternative and of its component technologies. Useful life is defined as the length of time the level of effectiveness can be maintained.

(2). Reduction in the toxicity, mobility or volume of wastes: As a general goal, remedies will be preferred that employ techniques that are capable of eliminating or substantially reducing the potential for the wastes in SWMUs and/or contaminated media at the facility to cause future environmental

releases. Estimates of how the corrective measure alternative will reduce toxicity, mobility and or volume of the waste is required and may be accomplished through a comparison of initial site conditions to expected post-corrective measures conditions.

(3). Short-term effectiveness: The Permittee shall evaluate each corrective measure alternative for short-term effectiveness. Possible factors to consider are fire, explosion, exposure to hazardous constituents, and potential threats associated with the treatment, excavation, transportation and re-disposal or containment of the waste material.

(4). Implementability: Information to consider when assessing implementability include:

(a). The administrative activities needed to implement the corrective measure alternative (*e.g.*, permits, rights of way, *etc*.) and the length of time these activities will take;

(b). The constructibility, time for implementation, and time for beneficial results;

(c). The availability of adequate off-site treatment, storage capacity, disposal services, needed technical services and materials; and,

(d). The availability of prospective technologies for each corrective measure alternative.

(5). Cost: The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs. The capital costs shall include, but are not limited to, costs for: engineering, site preparation, construction, materials, labor, sampling/analysis, waste management/disposal, permitting, health and safety measures, *etc*. The operation and maintenance costs shall include labor, training, sampling and analysis, maintenance materials, utilities, waste disposal and/or treatment, *etc*. Costs shall be calculated as the net present value of the capital and operation and maintenance costs.

F. Justification and Recommendation of the Corrective Measure or Measures

The Permittee shall justify and recommend in the CMS Report a corrective measure alternative for consideration by the Department. Such a recommendation should include a description and supporting rationale for the preferred alternative that is consistent with the corrective action standards and remedy selection decision factors discussed above. In addition, this recommendation shall include summary tables that allow the alternative or alternatives to be understood easily. Trade-offs among health risks, environmental effects, and other pertinent

factors shall be highlighted. The Department will select the corrective measure alternative or alternatives to be implemented based on the results presented in the CMS Report.

Appendix D

Schedule of Compliance

Schedule of Compliance	Due Date
Non compliance/Imminent Hazard Report *General Condition 8.*	Oral within 24 hours and written within fifteen (15) calendar days of becoming aware of the hazardous circumstances
Notification of Newly Identified SWMUs and AOCs *Specific Conditions HSWA Part I.2 and HSWA Part I.3.*	Within fifteen (15) calendar days of discovery
SWMU Assessment Report (SAR) *Specific Condition HSWA Part I.4.*	Within ninety (90) calendar days of notification by the Department or within the timeframe established in the letter from the Department, which notifies that a SAR is necessary
Notification for Newly Discovered Releases at Previously Identified SWMUs and AOCs *Specific Condition HSWA Part I.6.*	Within fifteen (15) calendar days of discovery
SAR for SWMUs or AOCs identified in Appendix A.1 *Specific Condition HSWA Part I.8*	Within the timeframe established in the letter from the Department which notifies that a SAR is necessary or within one hundred-twenty (120) calendar days if a timeframe is not provided.
CS Work Plan for SWMUs or AOCs identified in Appendix A.2 *Specific Condition HSWA Part II.*	In accordance with the latest CAMP approved by the Department (see Attachment 1 of Appendix D)
CS Work Plan for SWMUs identified under *Specific Conditions HSWA Part I.2, HSWA Part I.5, or HSWA Part II.2.*	Within the time established in the letter from the Department, which notifies that a CS is necessary or within sixty (60) days if a time frame is not provided.
CS Report *Specific Condition HSWA Part II.5.*	In accordance with the approved CS Work Plan

Schedule of Compliance (continued)	Due Date (continued)
RFI Work Plan for SWMU(s) and AOC(s) identified under *Specific Conditions HSWA Part I.1.c and HSWA Part III.2.*	In accordance with the latest CAMP approved by the Department (see Attachment 1 of Appendix D)
RFI Work Plan for SWMU(s) and AOC(s) Identified under *Specific Conditions HSWA Part I.5, HSWA Part I.7, or HSWA Part II.7 and Specific Condition HSWA Part III.3.*	Within the time established in the notification letter from the Department that identifies which SWMUs or AOCs require an RFI or within one hundred-eighty (180) calendar days if a timeframe is not provided
RFI Progress Reports *Specific Condition HSWA Part III.7.*	Periodically, beginning on the date specified by the Department*
Draft RFI Report *Specific Condition HSWA Part III.8.*	In accordance with the approved RFI Work Plan
Final RFI Report *Specific Condition HSWA Part III.8.*	Within ninety (90) calendar days after receipt of Department's final comments on Draft RFI Report
IM Work Plan for SWMUs and AOCs Identified by the Permittee *Specific Condition HSWA Part IV.2.*	In accordance with the latest CAMP approved by the Department
IM Work Plan for SWMUs and AOCs Identified by the Department *Specific Condition HSWA Part IV.3.*	Within the time established in the letter from the Department that calls for an IM Work Plan or within ninety (90) days if a timeframe is not provided
IM Progress Reports *Specific Condition HSWA Part IV.9.*	In accordance with the approved IM Work Plan**
RFI Work Plan for SWMU(s) and AOC(s) identified under *Specific Conditions HSWA Part I.1.c and HSWA Part III.2.*	In accordance with the latest CAMP approved by the Department (see Attachment 1 of Appendix D)

Schedule of Compliance (continued)	Due Date (continued)
IM Report *Specific Condition HSWA Part IV.10.*	Within the time established in the letter from the Department that calls for the IM Report
CMS Work Plan *Specific Condition HSWA Part V.1.*	In accordance with the latest CAMP approved by the Department, within the time established in the letter from the Department calls for the IM Work Plan or within one hundred-eighty (180) calendar days of notification of need for CMS Work Plan if not addressed in CAMP.
Implementation of CMS Work Plan *Specific Condition HSWA Part V.4.*	In accordance with the schedule in the approved CMS Work Plan
Draft CMS Report *Specific Condition HSWA Part V.5.*	In accordance with the schedule in the approved CMS Work Plan
Final CMS Report *Specific Condition HSWA Part V.5.*	Within sixty (60) calendar days of the Department's final comments on Draft CMS Report
Statement of Basis, LUPIPS, CMI and Permit Modification	In accordance with the scheduled determined by the Cape Canaveral Partnering Team

The above reports must be signed and certified in accordance with 40 CFR 270.11 and Rule 62-730.220(2), F.A.C.

* This applies to Work Plan execution that requires more than one hundred-eighty (180) calendar days

** This applies to Work Plan execution that requires more than one year.

The schedule in the CAMP takes precedence over the Schedule of Compliance provided in Appendix D. If at any time the Department determines that a requested update of the CAMP is appropriate, the CAMP schedule shall be updated to reflect the approved changes. Once the Department has approved the update, the updated CAMP schedule shall take precedent over the previous CAMP schedule and the Schedule of Compliance provided in Appendix D.

Appendix E

Action Levels

I. DEFINITION

Action Levels are the Department's conservative health-based concentrations of hazardous constituents determined to be indicators for the protection of human health or the environment. Action Levels shall be set for all hazardous constituents, a subset of hazardous wastes, identified in the RFI Report(s) or for those hazardous constituents that the Department has reason to believe may have been released from a solid waste management unit (SWMU) or Area of Concern (AOC) at the facility. Should the concentration of a hazardous constituent(s) in an aquifer, surface water, soils, or air exceed its Screening Level for any environmental medium, the Department may require that the Permittee conduct a Corrective Measure Study (CMS) to meet the requirements of HSWA Part V, Appendix C, and 40 CFR 264.101. If the Department determines that a constituent(s) released from a SWMU or AOC in quantities below its respective Screening Level(s) may pose a threat to human health or the environment, given site-specific exposure conditions, cumulative effects, ecological concerns, *etc*., then the Department has the authority to require a CMS to meet the requirements of HSWA Part V, Appendix C, and 40 CFR 264.101.

Action Levels shall be concentration levels, which satisfy the following criteria:

A. 1. Is derived in a manner consistent with Department guidelines for assessing human and environmental health risks from hazardous constituents; and

2. Is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act (TSCA) Good Laboratory Practice Standards, or equivalent; and

3. For human health Action Levels to address carcinogens, represents a concentration associated with an excess upper bound lifetime cancer risk of 1×10^{-6} for carcinogens due to continuous constant lifetime exposure; and

4. For human health Action Levels to address systemic toxicants, represents a concentration to which the human population (including sensitive subgroups) could be exposed on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime in accordance with Department procedures.

B. For constituent(s) detected in groundwater, air, surface water, or soils, for which a concentration level that meets the criteria specified in section I.A.1 through I.A.4 of this appendix is not available or possible, the Screening Level for the constituent(s) shall be the background concentration of the constituent(s).

II. GROUNDWATER

A. Action Levels for constituents in groundwater shall be concentrations specified as:

1. MCLs; or

2. For constituents for which MCLs have not been promulgated, a concentration, which satisfies the criteria specified in section I.A.1 through I.A.4 of this appendix shall be calculated.

B. In deriving human health Action Levels for constituents for which MCLs have not been promulgated, the recommended equations/assumptions shall be developed using the Department's Groundwater Cleanup Target Levels. Because the science of risk assessment is in flux and technical criteria/opinion of today (*e.g.*, content of standardized equations, use of default exposure assumptions, *etc*.) may change, the Department reserves the right to revise the above recommended equations/assumptions as needed to meet the criteria listed in section I.A.1 through I.A.4 of this appendix.

III. SURFACE WATER

A. Action Levels for constituents in surface water shall be concentrations specified as:

1. Water Quality Standards established pursuant to the Clean Water Act by the Department, where such standards are expressed as numeric values; or

2. Numeric interpretations of Department narrative water quality standards where water quality standards expressed as numeric values have not been established by the Department; or

3. MCLs for constituents in surface water designated by the Department for drinking water supply, where numeric values, or numeric interpretations described in paragraphs 1 and 2 immediately above, are not available; or

4. For constituents in surface waters designated by the Department for drinking water supply for which numeric values, numeric interpretations, or MCLs are not available, a concentration which meets the criteria specified in section I.A.1 through I.A.4 of this appendix shall be calculated assuming exposure through consumption of the water contaminated with the constituent; or

5. For constituents in surface waters designated for use or uses other than drinking water supply and for which numeric values or numeric interpretations have not been established, a concentration established by the Department which meets the criteria specified in section I.A.1 through I.A.4 of this appendix shall be calculated.

B. In deriving human health Action Levels for constituents in surface water, the recommended equations/assumptions shall be developed using Department guidance.

IV. Air

A. Air emissions shall not exceed the Department's conservative health-based concentrations.

V. Soils

A. Action Levels for constituents in soils shall be concentrations which meet the criteria specified in section I.A.1 through I.A.4 of this appendix.

B. The calculation of human health Action Levels for soil includes several specific exposure routes which must be evaluated individually: 1) ingestion, 2) inhalation and 3) leachability to groundwater. In deriving Action Levels to address ingestion, inhalation and leaching, the methodology/assumptions shall be those in Department guidance. Because the science of risk assessment is in flux and technical criteria/opinion of today (*e.g.*, content of standardized equations, use of default exposure assumptions, *etc*.) may change, the Department reserves that right to revise the above recommended equations/assumptions as needed to meet the criteria listed in section I.A.1 through I.A.4 of this appendix.

VI. Sediment

A. Action Levels for constituents in sediment shall be based on whether human health or ecological health is the major concern. If ecological concerns are deemed to predominate, then Action Levels for constituents in sediment shall be concentrations based on the latest sediment screening values as calculated by the Department. Because the science of risk assessment is in flux and technical criteria/opinion of today (*e.g.*, content of standardized equations, use of default exposure assumptions, *etc*.) may change, the Department reserves that right to revise the above recommended equations/assumptions as needed to meet the criteria listed in section I.A.1 through I.A.4 of this appendix.

If an ecological sediment screening value for a constituent of concern has not been generated by the Department and cannot be generated using the criteria in sections I.A.1 and I.A.2 of this appendix, then the ecological Screening Level for sediment shall be background. If human health is the prevailing concern, then the human health Screening Level for sediment shall address all applicable exposures.

Issued_____

STATE OF FLORIDA DEPARTMENT

PERMITTEE:
Department of the Air Force
Cape Canaveral Air Force Station
45th CES/CEV
1224 Jupiter Street
Patrick Air Force Base, FL 32925

I.D. NUMBER: FL2 800 016 121
PERMIT/CERTIFICATION NUMBER: 70725/HO-CA/001
DATE OF ISSUE: **DRAFT**
EXPIRATION DATE: March 3, 2005

OF ENVIRONMENTAL PROTECTION

JOHN M. RUDDELL, DIRECTOR
DIVISION OF WASTE MANAGEMENT

Filing and Acknowledgment
Filed on this date, pursuant to
Section 120.52, Florida Statutes,
with the designated Clerk, receipt
of which is acknowledged.

CLERK DATE

This is to certify that this Notice of Permit was mailed before
close of business on _____.

Attachment 1 – List of waste in 44205

Process Code	Process Design Capacity and Units of Measure	Hazardous Waste Codes	Estimated Annual Quantities (Gals)
S01	11,000 G Total		
		F001	2,700
		F002	4,300
		F003	520
		F004	TBD
		F005	TBD
		F006	TBD
		D001	TBD
		D003	TBD
		D004	TBD
		D005	TBD
		D006	TBD
		D007	TBD
		D008	TBD
		D009	TBD
		D010	TBD
		D011	TBD
		D016	TBD
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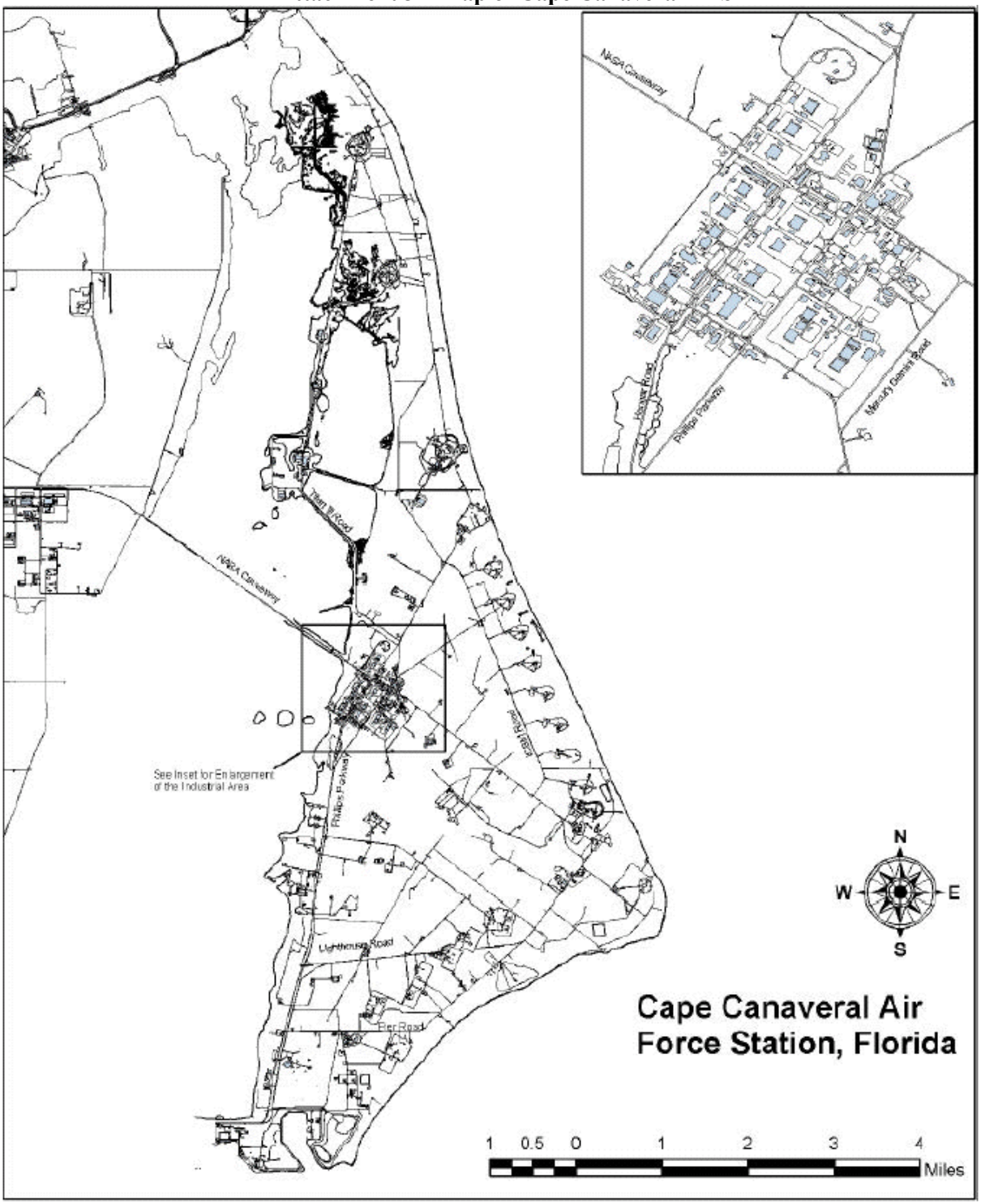
		D029	TBD
		D030	TBD
		D032	TBD
		D033	TBD
		D034	TBD
		D035	TBD
		D036	TBD
		D037	TBD
		D038	TBD
		D039	TBD
		D040	TBD
		D043	TBD
		U002	TBD
		U080	TBD
		U133	1,000 lbs (solids only)
		U134	TBD
		U151	TBD
		U154	TBD
		U159	TBD
		U161	TBD
		U196	TBD
		U220	TBD
		U228	TBD
		P068	1,000 lbs (solids only)
		P078	1,000 lbs (solids only)

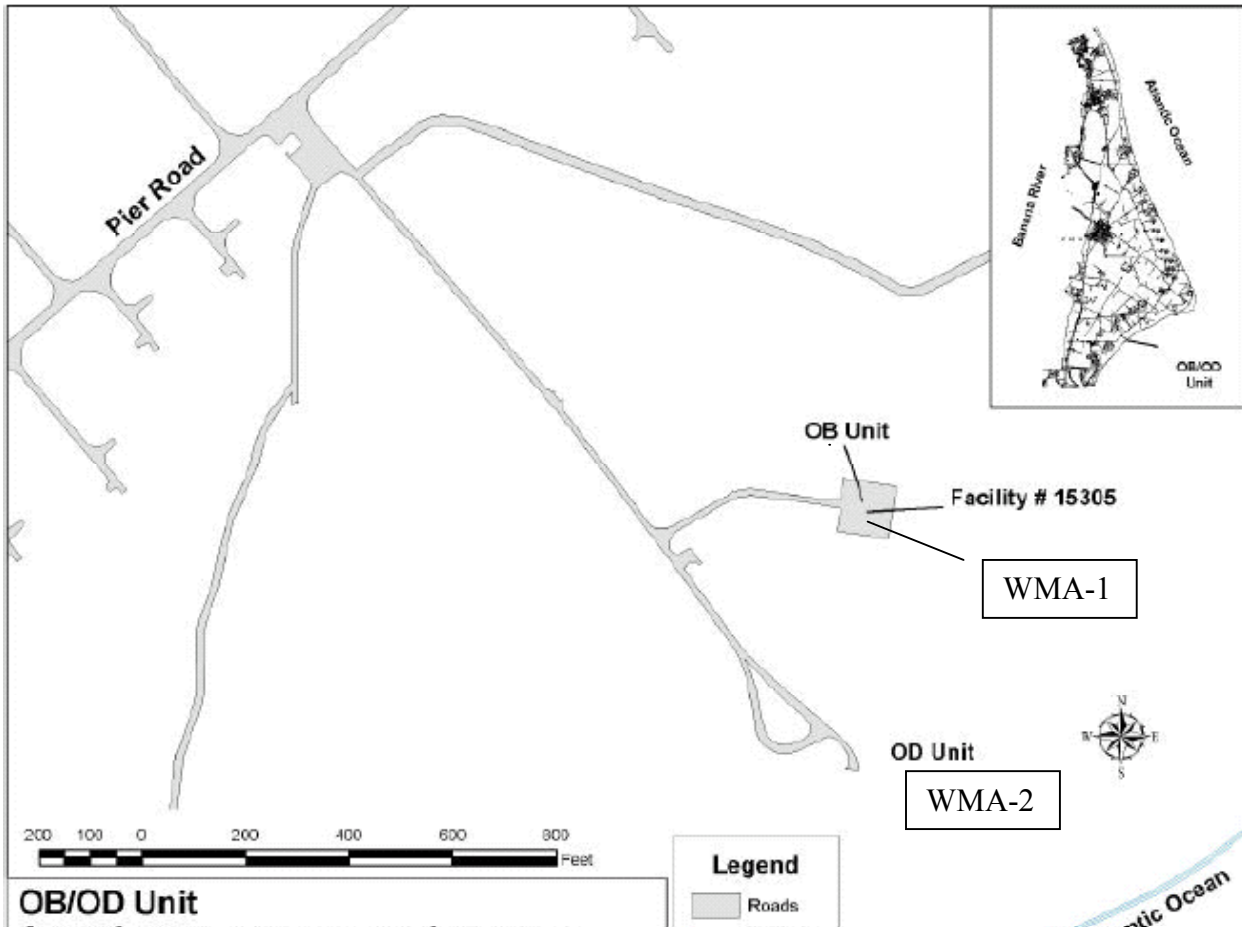
Attachment 2 – List of waste in 44200

Process Code	Process Design Capacity and Units of Measure	Hazardous Waste Codes	Estimated Annual Quantities (Gals)
S01	3,520 G Total		
		D002	14,000
		D004	TBD
		D005	TBD
		D006	TBD
		D007	TBD
		D008	TBD
		D009	TBD
		D010	TBD
		D011	TBD

Attachment 3 – Map of Cape Canaveral AFS



Attachment 4 – OB/OD Location



Attachment 5 – Typical Reactive Components of Ordnance

Waste Item	*NEW (lbs)	Filler	Chemical Compound	**Nomenclature
.050 Cal	0.342	Smokeless Powder	Salt Peter, Charcoal, Sulfur	Cartridges, Small Arms
2.75 Motor, MK40, MOD3	8.0	Ballistite	NG 42.9, NC 51.4, Et Cetr 1.0; Potassium Sulfate 1.25, Diethylphthalate 3.23, Candellia Wax .02, Carbon .2	Rocket Motor
PWN 10	37.7	Polysulfide Fuel	Ammonium, NH_4ClO_4	Rocket Motor
MK25	2.0	Red Phosphorous	P_4	Signal, Distress
MK 6	4.0	Red Phosphorous	P_4	Signal, Smoke
Range Safety, Linear Shape Charge	18.27 Per Shuttle	HMX	$C_4H_8N_8O_8$	Charges, Shape Commercial
Flex Transfer Line (CDF)	0.57	PETN	$C(CH_2ONO_2)_4$	Charges, Explosive Commercial
Bulkhead Initiator	0.00163	PETN	Titanium, Cupric Oxide, Ti, $C(CH_2ONO_2)_4$	Cartridges, Power Devices
NASA Standard Initiator (NSI) (Shuttle CAD Item)	1.6	RDX Lead Acid	$C_3H_6N_6O_6$, $Pb(N_3)_2$	Cartridges, Power Devices
LUU 2	22	Pyrotechnic Mixture	Polymeric Binder, Sodium Nitrate, Powdered Magnesium	Flares, Aerial
M781, 40 mm Cartridge	.0022	Smokeless Powder	Salt Peter, Charcoal, Sulfur	Grenades
CCU 44	.010	Propellant	Low Explosive, Class C	Cartridges, Power Devices
MK47 Impulse Cartridge	.044	Propellant	Low Explosive, Class C	Cartridges, Power Devices
CAD	.044	Propellant	Low Explosive, Class C	Cartridges, Power Devices
BSM	1	Propellant	Ammonium Perchlorate Aluminum, HTPB Binder	Propellant, Explosive, Solid

*NEW – Net Explosive Weight

**Nomenclature corresponds to Table A(5)-1 on Page II.A-28 of the original permit package submitted

Attachment 6 – Typical Annual Treatment Quantity

Nomenclature	Class	Quantity	NEW (lbs)	*Treatment/Family
Ammunition, Smoke	1.4G	70	51	BURN/4
Charges, Explosive Commercial	1.1D	6	3	DET/2
Charges, Shape, Commercial	1.1D	168	168	DET/2
Cartridges, Power Device	1.4C	856	12	BURN/1
Cartridges, Power Device	1.4S	34	<1	BURN/1
Cartridges, Signal	1.4G	3	1	BURN/1
Cartridges, Small Arms	1.4S	12,104	51	BURN/1
Cartridges, Small Arms	1.4C	2,845	149	BURN/1
Cutter, Cable, Explosive	1.4S	198	<1	BURN/2
Detonators, Electric	1.1B	169	2	DET/2
Detonators, Non-Electric	1.1B	25	<1	DET/2
Explosive, Blast, Type A	1.3D	1,311	84	DET/2
Fireworks	1.3G	10	5	DET/3
Flares, Aerial	1.3G	254	6	BURN/3
Fuzes, Detonating	1.2D	93	21	DET/2
Grenades	1.1D	4	<1	DET/2
Igniter	1.4S	248	<1	BURN/2
Mines	1.1D	2	3	DET/2
**Picric Acid	1.1D	1	<1	DET/2
Propellants, Explosive, Solid	1.3C	270	288	BURN/5
Rocket Motor	1.3C	93	381	BURN/5
Signal Device, Hand	1.4G	404	85	BURN/3
Signal, Distress	1.3G	997	252	BURN/3
Signal, Distress	1.3G	760	37	DET/3
Signal, Smoke	1.4G	16	263	BURN/4
Trinitrotoluene	1.1D	1	1	DET/2
Miscellaneous		215	26	BURN
Miscellaneous		23	97	DET

*Family Number corresponds to Families identified and listed in Table II.I(4)-1 in Section I of this Subpart X Permit Application.

**One hundred grams of Picric Acid was thermally destroyed at the CCAS EOD Range on 16 July 1991. This was a one-time event, not a typical annual quantity.

Attachment 7 – List of SWMUs and AOCs

SWMU No.	Site Name	Facility Reference	CAS	CAS Rationale
Appendix A1				
C021	Acid Neutralization Pit	381	A1	
C022	Hangar K Area-- Metal Cleaning Shop	60425	A1	
C033	Fire Training Area #2	54500	A1	
C038	Launch Complex 13	8808	A1	
C039	Launch Complex 14	1684	A1	
C044	Launch Complex 25/29	52001	A1	
C054	Launch Complex 34 (NASA)	21934	A1	
C055	Launch Complex 17	28401	A1	
C056	Launch Complex 37	33000	A1	
C057	Fuel Storage Area #1 (NASA)	1047	A1	
C058	Hangar AF Area (NASA)	66250	A1	
C065	Trident Wharf	79100	A1	
C067	Former LOX Plant Area	85200	A1	
C071	Hangar H Area/Motion Picture	1604	A1	
C091	Security Police Confidence Course	18003	A1	
C148	Civil Engineer Admin Building	60600	A1	
Appendix A2				
C001	Beach Disposal, Pump Station North of Launch Complex 46	1515	A2	
C002	Acid Neutralization Pit	80500	A2	
C003	Alkaline Detergent Discharge	1744	A2	
C004	Spray Irrigation Field	66250	A2	
C007	Sludge Incinerator		A2	
C008	CCAFS Boiler	55055	A2	
C009	Used Oil Storage Areas		A2	
C010	Oil/Water Separators	Various	A2	
C011	Hypergolic Propellants Incinerator	80700	A2	
C012	Hangar U-- Drum Storage Area,	54810	A2	
C013	Drum Storage Area, Sandblast/Paint shop	44632	A2	
C014	Hangar D-- Drum Storage Area	55123	A2	
C015	Former Hazardous Waste Storage Area North of Trident Pier	1110	A2	
C016	Generator Shop	44625	A2	
C017	90-Day Accumulation Areas	Various	A2	
C018	Satellite Accumulation Areas	Various	A2	
Appendix A2				

SWMU No.	Site Name	Facility Reference	CAS	CAS Rationale
C019	Landfill #2		A2	Site qualifies for FAC 62-770, Petroleum Program
C023	Sandblasting Area	44631	A2	
C024	Launch Complex 34-- Waste Oil Recovery Unit (NASA)	18410	A2	Site qualifies for FAC 62-770, Petroleum Program
C026	Inactive EOD	15305	A2	
C027	Active EOD Unit	15305	A2	
C029	UST and Soakage Pit	55005	A2	
C031	Fuel Spill	1723	A2	Site qualifies for FAC 62-770, Petroleum Program
C034	Bulk POL Storage Area	1743	A2	Site qualifies for FAC 62-770, Petroleum Program
C035	Fuel Spill	44501	A2	Site qualifies for FAC 62-770, Petroleum Program
C045	Launch Complex 31/32	17700	A2	
C051	Non-Destruct Test Lab (NASA)	77375	A2	
C053	Launch Complex 5/6 (NASA)	1207	A2	
C059	Hangar S & SCAPE Suit Maintenance Building (NASA)	66220	A2	
C061	Launch Complex 21/22	5951	A2	
C062	NRC Storage Building	6011	A2	
C063	POL Area, ITL	70528	A2	
C064	Transformer Maintenance Building	55118	A2	
C066	Flammable Liquid Storage Site	92017	A2	
C068	Hangar I	1711	A2	
C069	Hazardous Waste and Materials Storage Area	91903	A2	
C070	Creosote Treated Pole Storage Yard		A2	
C072	Field Near Facility 44200	44200	A2	
C073	Disposal Pit East of Launch Complex 11		A2	
C074	Aniline Area East of the NRC Building		A2	
C075	Hangar N Area (NASA)	1728	A2	Site qualifies for FAC 62-770, Petroleum Program
C077	Former Pump Station West of Launch Complex 1/2/3/4	1542	A2	
C078	Heating Plant Area	1723	A2	
C079	Hangar E Area	1612	A2	
C080	Concrete Dump East of Launch Complex 16		A2	
Appendix A2				

SWMU No.	Site Name	Facility Reference	CAS	CAS Rationale
C081	Firehouse/Lighthouse Area	1360	A2	
C082	Former Pump Station at the Air Force Wharf	92050	A2	
C083	Krypton Gas Storage Facility	49904A	A2	
C084	Pit Near Fueling Station #1		A2	
C085	Ordnance EMT	1058	A2	
C086	Former Missile Storage Area (Missile Boneyard)		A2	
C087	Former Gas Station North of Facility 62615	62615	A2	
C089	Skid Strip Road Parking Pad		A2	
C090	Launch Complex 46	3100	A2	
C092	Hangar I	1711	A2	Site qualifies for FAC 62-770, Petroleum Program
C093	Launch Complex 5/6 Spin Test Area	41301	A2	
C094	Observation Road Waste Dump Area		A2	
C095	VIB Area	70500	A2	
C096	Locomotive Refurbishment Shop	70650	A2	
C097	Transporter Refurbishing Area & Paint Shop	70655	A2	
C098	Former Pond East of SMARF		A2	
C099	Azusa Antenna Field	19500	A2	
C100	Former Storage & Concrete Plant near 44200	44200	A2	
C101	Water Pump Station #1	40906	A2	Site qualifies for FAC 62-770, Petroleum Program
C102	Portable Generator Shop	7800	A2	
C103	Diesel UST Location/Rigging Shop	1635	A2	Site qualifies for FAC 62-770, Petroleum Program
C104	Interim Explosives Disposal Area	43520	A2	
C105	Jupiter Missile Crash Site		A2	
C106	Former Pesticide Shop	1635	A2	
C107	TV Skyscreen Building	42911	A2	
C108	Patrol Road Chemical Waste Dumping Area		A2	
C109	Cleared Area South of Paint Storage Facility 1778	1778	A2	
C110	Hazardous Waste Storage Facility	44200	A2	
C111	Blue Scout STP	50701	A2	
C112	Launch Complex 17 STP	36007	A2	
Appendix A2				
C113	Launch Complex 36 STP	5516	A2	

SWMU No.	Site Name	Facility Reference	CAS	CAS Rationale
C114	Launch Complex 40 STP	47125	A2	
C115	Launch Complex 41 STP	29133	A2	
C116	MAB STP	55860	A2	
C117	MIS STP	75252	A2	
C118	Missile Prop. STP	70582	A2	
C119	RIS STP		A2	
C120	ROCC STP	81800	A2	
C121	SMAB STP	70001/ 70013	A2	
C122	SMARF STP	69802	A2	
C123	VIB STP	70455	A2	
C124	Launch Complex 26	41110	A2	
C125	Launch Complex 30	56942	A2	
C126	XY Building	1641	A2	Site qualifies for FAC 62-770, Petroleum Program
C127	Command Control	81585	A2	Site qualifies for FAC 62-770, Petroleum Program
C128	Hangar Y	1115	A2	
C129	Area 59/GPS	55840	A2	
C130	Physical Standards Lab	1724	A2	Site qualifies for FAC 62-770, Petroleum Program
C131	Auxiliary Power	1740	A2	Site qualifies for FAC 62-770, Petroleum Program
C132	Fuel Storage Area #4	85110	A2	Site qualifies for FAC 62-770, Petroleum Program
C133	UST Location	1743	A2	Site qualifies for FAC 62-770, Petroleum Program
C134	Base Cafeteria	1748	A2	Site qualifies for FAC 62-770, Petroleum Program
C135	Diesel UST Location/Pump Stat. 7	29155	A2	Site qualifies for FAC 62-770, Petroleum Program
C136	Paint Storage UST Location	44603	A2	Site qualifies for FAC 62-770, Petroleum Program
C137	Standby Power Plant UST	49641	A2	Site qualifies for FAC 62-770, Petroleum Program
C138	Navstar Processing Facility UST	55810	A2	Site qualifies for FAC 62-770, Petroleum Program
C139	NOTU Fueling Station	62708	A2	Site qualifies for FAC 62-770, Petroleum Program
Appendix A2				

SWMU No.	Site Name	Facility Reference	CAS	CAS Rationale
C140	Mark VI Checkout Building UST	67210	A2	Site qualifies for FAC 62-770, Petroleum Program
C141	PSF UST	55840	A2	Site qualifies for FAC 62-770, Petroleum Program
C142	Heavy Equip. Shop	49835	A2	Site qualifies for FAC 62-770, Petroleum Program
C143	Fuel Storage Area #1-- RP/JP (NASA)		A2	Site qualifies for FAC 62-770, Petroleum Program
C144	Launch Complex 25/29	52001	A2	
C145	Launch Complex 31/32	17700	A2	
C146	Small Arms Range	18008	A2	
C147	Former Pistol Range	1987	A2	
C157	Trident Pre-Treatment Facility	62720	A2	Site qualifies for FAC 62-770, Petroleum Program
C158	Navy Port	1063	A2	Site qualifies for FAC 62-770, Petroleum Program
C159	E&A Bldg	1733	A2	Site qualifies for FAC 62-770, Petroleum Program
C160	TSF	34706	A2	Site qualifies for FAC 62-770, Petroleum Program
C161	UST	3656	A2	Site qualifies for FAC 62-770, Petroleum Program
C162	Sewage Lift	44407	A2	Site qualifies for FAC 62-770, Petroleum Program
C163	Gen Shop Adm	44635	A2	Site qualifies for FAC 62-770, Petroleum Program
Appendix A3				
C149	Storage	1738	A3	
C150	Pad Mounted Transformer	38320	A3	
C151	Substation Transformer	44425	A3	
C152	Oil Switch	55005	A3	
C153	Substation Transformer	59921	A3	
C154	Substation Transformer	7802	A3	
C155	Storage	44603	A3	
C156	Substation Transformer	54920	A3	
C164	Abandoned Site	4125	A3	
C165	Pad Mounted Transformer	27204	A3	
C166	Substation Transformer	44522	A3	
C167	Pad Mounted Transformer	44812	A3	
C168	Unknown	49622	A3	
Appendix A3				

SWMU No.	Site Name	Facility Reference	CAS	CAS Rationale
C169	Generator Bldg	49641	A3	
C170	Pole Mounted Transformer	49906	A3	
C171	Substation Transformer	55045	A3	
C172	Power Station	60302	A3	
C173	Substation Transformer	60531	A3	
C174	Substation Transformer	60551	A3	
C175	Substation Transformer	60681	A3	
C176	Substation Transformer	70008	A3	
C177	Substation Transformer	70511	A3	
C178	Substation Transformer	80506	A3	
C179	Optical Switch Site	81725	A3	
C180	Power Station	85300	A3	
C181	Substation Transformer	88905	A3	
C182	Pole Mounted Transformer	90505	A3	
C183	Substation Transformer	90515	A3	
C184	Abandoned Site	60652	A3	
C185	Substation Transformer	1709	A3	
C186	Substation Transformer	50005	A3	
C187	Substation Transformer	29152	A3	
C188	Pad Mounted Transformer	42947	A3	
C189	Substation Transformer	44424	A3	
C190	Pole Mounted Transformer	44601	A3	
C191	Enclosed Switch Station	49732	A3	
C192	Pad Mounted Transformer	54830	A3	
C193	Substation Transformer	56025	A3	
C194	Substation Transformer	60610	A3	
C195	Abandoned Site	61525	A3	
C196	Power Station	63805	A3	
C197	Substation Transformer	67904	A3	
C198	Pad Mounted Transformer	70581	A3	
C199	Oil Switch	78160	A3	
Appendix A4				
C006	Cape Main STP Area	1798	A4	Approved Statement of Basis
C020	NOTU Support, Acid Neutralization Pit	84920	A4	Approved Statement of Basis
C025	Landfill #1		A4	Approved Statement of Basis
C028	Hangar R & D/Waste Etchant UST	1708	A4	Approved Statement of Basis
C030	Launch Complex 15-- Bilge Water Treatment	10830	A4	Approved Statement of Basis
C032	Fire Training Area #1	SLC-46	A4	Approved Statement of Basis
Appendix A4				
C036	Launch Complex 11	1567	A4	Approved Statement of Basis

SWMU No.	Site Name	Facility Reference	CAS	CAS Rationale
C037	Launch Complex 12	1676	A4	Approved Statement of Basis
C040	Launch Complex 16	13112	A4	Approved Statement of Basis
C041	Launch Complex 18	24401	A4	Approved Statement of Basis
C042	Launch Complex 19	15730	A4	Approved Statement of Basis
C043	Launch Complex 20	18800	A4	Approved Statement of Basis
C046	Launch Complex 40	47105	A4	Approved Statement of Basis
C047	Launch Complex 41	29102	A4	Approved Statement of Basis
C048	Hangar U (Auto Shop)	1744	A4	Approved Statement of Basis
C049	Heavy Equipment Shop	49835	A4	Approved Statement of Basis
C050	Launch Complex 36 (NASA)	5501	A4	Approved Statement of Basis
C052	Area 55 (NASA)	1305	A4	Approved Statement of Basis
C060	Launch Complex 1/2/3/4	4100	A4	Approved Statement of Basis
C076	Hangar M Area	1731	A4	Approved Statement of Basis
C088	Fire Station	1608	A4	Approved Statement of Basis
A1 = Requires a RCRA Facility Investigation				
A2 = Requires No Further Action at this Time				
A3 = Requires Confirmatory Sampling				
A4 = Undergoing Remedial Action				